KLEINFELDER

[redacted] CORPORATION
AMENDED CLOSURE PLAN

PROJECT 50-1601-02

PREPARED FOR

DEPARTMENT OF HEALTH SERVICES
REGION 3
1405 NORTH SAN FERNANDO BOULEVARD, SUITE 3300
BURBANK, CALIFORNIA 91504

PREPARED BY

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November 1989

INTRODUCTION

The closure plan described herein is in response to a State Department of Health Services (DHS) Corrective Action Order (Docket HWCH 88/89-017) issued to the respondent, Diversey Wyandotte Corporation (DWC), located at 8921 Dice Road, Santa Fe Springs, California 90670.

In a letter dated January 20, 1989 to Kleinfelder, DWC requested that Kleinfelder prepare a Closure/Sampling Plan and Implementation Schedule for a Permitted Hazardous Waste Storage Facility and Neutralization Tank at the DWC, Plant Site in Santa Fe Springs, California. The closure/sampling plan was submitted in March 1989 for review by DHS. In a letter dated October 11, 1989, DHS requested additional information prior to approval of the closure/sampling plan. This amended plan includes the information requested in the October 11, 1989, letter. The information contained in this report addresses only the aforementioned permitted structures and vessels. Findings and conclusions described in this report are based solely upon materials transmitted to Kleinfelder by DWC. By using its information Kleinfelder neither warrants nor guarantees the accuracy of the data used for those findings and conclusions.

FACILITY LOCATION AND SIZE

Diversey Wyandotte Corporation (DWC) applied to and received from the California State DHS a permit (CAD 046455747) authorizing the continued operation of a hazardous waste storage and treatment facility located at 8921 Dice Road, Santa Fe Springs, Los Angeles County, California. The company manufactured cleaning products containing chromium, as well as acid and alkali based cleaning products at the facility. A site location map is included as Figure 1.

Approximately 275 gallons per month of waste (chromium salts or acid in solution with strong mineral acids) was generated. This waste was collected in polyethylene-lined 55-gallon fiber drums, and then treated to raise the pH to the 4 to 6 range, in a 2,500-gallon stainless steel mixing vessel. After pH adjustment, the waste was transported to an offsite disposal facility by a licensed hazardous waste hauler. The lined fiber drums were stored in a covered, bermed storage area until four or more drums were available to be treated in a batch.

A neutralization and clarification system for the disposal of acids and alkaline wastes was and still is on the site, but because that system was and is regulated by the Los Angeles County Sanitation District, under discharge permit No. 8113, no permit is required from the DHS.

Security at the site was and is provided by a Wells Fargo System, with monthly inspection of sprinkler systems and alarms included by Wells Fargo.

SITE HISTORY

The Santa Fe Springs (SFS) facility was built in 1954 by Wyandotte Chemical Company to replace a Pacific Chemicals plant purchased in 1951. The plant was expanded in 1963 and again in 1967. In or about 1970, BASF Corporation acquired Wyandotte Chemicals, forming BASF Wyandotte Corporation. On April 1, 1980, Diversey Corporation acquired the Chemical Specialties Business of BASF Wyandotte, which included the SFS facility. The plant became part of Diversey Wyandotte when Diversey Wyandotte Corporation was incorporated on April 1, 1981, under Delaware law.

Since 1954, SFS has been used for the production, warehousing, and shipment of chemical specialties products. In mid-1977 an automatic line for bottling antifreeze for the Organic Division of BASF Wyandotte (a separate division from the Chemical Specialties Business of which SFS was a part) was added. About 2,000 gallons per year were bottled. This bottling operation was discontinued about March 31, 1980, when BASF Wyandotte sold the Chemical Specialties business to Diversey Corporation.

The plant is described as a batch blending operation emphasizing materials handling.

Since 1980 the plant has produced cleaning and sanitizing chemical specialties for the institutional, laundry, food processing, dairy, agriculture, metals, and pulp and paper industries. Products produced include:

Institutional: Chemical specialty products for kitchen and housekeeping use in restaurants and for kitchen, housekeeping, and on-premise laundry use in hotels, motels, schools, correctional facilities, nursing homes, and other like institutions.

The products included:

Kitchens: Machine dishwashing powders and liquids, hand dishwashing powders and liquids; machine drying agents, pre-soaks, and delimers.

Housekeeping: Various all-purpose and specialty cleaners and floor finishers.

On-Premise Laundries: Alkalies, detergents, bleaches, softeners, sours, and other related products in either powder or liquid form.

Laundry: Powdered and liquid alkalies, detergents, sours, softeners, bleaches, and related specialties for use in larger institutional and rental laundry facilities. In many cases the same products were sold into the institutional and laundry segments, the difference being container size and size of the laundry.

Food and Dairy: Products for cleaning and sanitizing (bacteria control) in dairy and food processing plants including sanitizers, water conditioners and additives, chain conveyor lubricants, alkalies, chlorinated C.I.P. (cleaning-in-place) cleaners, acid cleaners, manual cleaners, and related specialties.

Dairy Farm: Products for use on dairy farms, primarily for equipment sanitation and herd health, including acid cleaners, pipeline cleaners, chlorinated cleaners, liquid cleaners, iodine disinfectants, chlorine sanitizers, and test sanitizers.

Metal Cleaning Products: Products for the pre-treatment (cleaning) of metals prior to plating. These include acid descalers, maintenance cleaners, soak cleaners, derusters, conversion coatings, deoxidizers and desmutters, electrocleaners, rust inhibitors, paint removers and strippers, aluminum etchants, alkaline cleaners, iron and zinc phosphates, and related specialties. Products containing chromium were produced at SFS and warehoused there.

Pulp and Paper Industry: Products for use in pulp and paper mills, primarily oil and water-based defoamers (during that time period), and related products for end-process cleaning.

In the manufacturing process, various raw materials are blended together or even repackaged under a trade name. The plant follows the chemical formulas developed by Research and Development in manufacturing a product.

In March 1987, DWC sold a portion of the property, which sale did not include the building housing the manufacturing and warehouse facilities.

Hazardous waste operational changes throughout the history of the facility are as follows:

1954-1970

Based on information and belief, liquid acids, alkali, and small amounts of ethyl and isopropyl alcohol were disposed of by injection wells onsite. Solid alkalies from waste products were dissolved in water and mixed with waste acids before disposal to wells. It is believed solids with limited solubility were shipped to landfills. Date of discontinuance of injection wells is unknown.

1975-1980

A wastewater neutralization system was built in 1973. Both off-specification liquid alkalies and powdered non-chlorinated alkaline cleaners were dissolved in water and used to adjust pH of wastewater effluent stream. Technical grade sulfuric acid was purchased to neutralize excess alkalinity.

Some solid chlorinated products, raw materials, and hydrocarbons were shipped offsite for disposal.

1980-1984

Waste stream included:

Waste D007 Solid and liquid chromium waste containing products - believed less than 200 pounds - were stored for offsite disposal.

D001 Liquid containing alcohols and solid oxidizers such as chlorinated organic bleaches - 800 pounds per year.

D002 Alkaline solid and liquid waste - 100,000 pounds per year.

D003 Solid chlorinated compounds - bleaches trichloroisocyanurate and calcium hypochlorite - 1,000 pounds per year.

UO54 Phenolic and crysilic acid wastes - 50 pounds per year.

UO80 Dichloromethane (methylene chloride) - 400 pounds per year.

U154 Methanol and related alcohol - 125 pounds per year.

All wastes except liquid acids and alkalies were sent offsite for disposal.

Liquid acides and alkalies were mixed together if compatible to effect neutralization, and the wastewater was discharged to the POTW.

A hazardous-waste storage permit was issued effective October 1, 1984.

1984-1989

All wastes stored and transported offsite for disposal.

DWC ceased production of products containing chromium early in 1989. These were the products requiring that DWC operate under a hazardous waste storage permit. Since manufacture of these products was discontinued at SFS, DWC has had no need for its permit and can operate as a small-quantity generator.

GEOLOGIC AND HYDROGEOLOGIC CONDITIONS

The Diversey Wyandotte Corporation's Santa Fe Springs facility is located at 8921 Dice Road in section 31 of township 2 south, range 11 west, San Bernardino baseline and principal meridian, in the Santa Fe Springs Plain area of the coastal plain of Los Angeles County, California. The Santa Fe Springs Plain is a low, slightly rolling topographic feature that has been warped by the Santa Fe Springs - Coyote Hills anticlinal system. This plain dips gently both to the northeast, toward Whittier, and to the southwest, toward the Downey Plain, with elevations that ranges between 175 and 200 feet above sea level.

The site is located on upper Pleistocene alluvium of the Lakewood formation. The Lakewood formation unconformably overlies the lower Pleistocene San Pedro Formation, the Pliocene Pico and Repetto Formations, and the Miocene Puente Formation (refer to Figure 4). Based on literature, only the Lakewood and the San Pedro formations underlying the site contain fresh-water-bearing units (DWR Bulletin 104).

Three monitoring wells were installed on the property, then later destroyed, as part of an assessment study in January 1986. Locations of these wells are shown on Figure 2. Geologic boring logs are included in Appendix A. Based on the geologic logs from these wells, the following site specific information has been prepared.

The site is located on surface exposure of the Bellflower Aquiclude, a low permeability portion of the Lakewood Formation. This late Pleistocene aquiclude is approximately 10 to 15 feet thick and consists of clays, silt, silty clays, and sandy clays at the site's location. The Gage aquifer underlies the Bellflower aquiclude to a depth of 30 to 35 feet. Below the Gage, a second aquiclude exists to a depth of 50 feet. This aquiclude separates the Gage from the Hollydale aquifer. The Hollydale aquifer contains the first water beneath the site. Results from drilling by Kleinfelder near the site have indicated that the bottom of this aquifer is approximately 105 feet beneath the surface. The transmissivity of this aquifer is on the order of 40,000 gallons per day per foot beneath the site. Based on an assumed aquifer thickness of 50 feet and an error factor of one order of magnitude, a permeability range of 80 to 8,000 gal/day/ft^2 can be expected.

The general regional flow of groundwater in the area is in a south to southwest direction. Depth to groundwater is approximately 50 feet beneath the site's surface.

As part of the January 1986 assessment study, 12 soil samples and five water samples were analyzed. The soils were analyzed for pH, phosphate, chloride, ammonia and EPA priority pollutant metals. The water samples were analyzed for general minerals pH, EPA priority pollutant metals, phosphate, chloride, ammonia and purgeable halocarbons (U.S. EPA method 601). The laboratory results for both the soil and groundwater are included in Appendix B.

DESCRIPTION OF OPERATION PRODUCING HAZARDOUS WASTE

This facility manufactured a variety of cleaning and sanitizing products and only a few of these products contain chromic acid. When the manufacturing tanks were washed out, the water that was collected became a "Hazardous Waste". This "waste solution of chromic acid," a corrosive solution containing chromic acid, was collected and stored in 55-gallon drums. This facility accumulated about 5 drums (275 gallons) of this waste chromic acid solution per month.

The Chromic Acid solution was pumped into a 2,500-gallon stainless steel tank and mixed with dilute sodium hydroxide to raise the pH. A sample from the well-mixed solution was then taken and sent to a laboratory to be checked for chromic acid content and pH. All liquid and sludge were then hauled to the nearest TSD facility by Oil Process Company. This procedure was followed whenever a load of waste chromic acid was to be sent to the disposal site. A more detailed discussion is included in Section 4.

All new manufacturing formula were checked to ensure that no new raw materials were introduced into the system which would be considered hazardous, and therefore would need to be included in the waste analysis plan. This check was performed by the plant manager.

DESCRIPTION OF HAZARDOUS WASTE MANAGEMENT UNITS

Storage Shed

Containers used for storage of hazardous waste were poly-lined fiber 55-gallon drums. The hazardous waste drums were stored in an outside shed under a roof. The drums were stored on an asphalt base and were contained in a 9-inch high asphalt berm measuring 10 feet wide by 40 feet long. The volume of this berm was reported to be 2,244 gallons, and the maximum storage capacity of hazardous waste was 4,500 gallons. All drums were stored on wooden pallets which helped prevent any spilled material from coming in contact with undamaged containers until the spilled material could be cleaned up.

Neutralization Tank

The tank used for treating (neutralizing) the hazardous waste at the facility was a 2,500-gallon, 316 stainless steel mixing vessel located in the liquid production area. The tank was 9 feet high, with a diameter of 7 feet, and was supported entirely by a surrounding platform. The tank was installed in 1982, with a life expectancy of 20 years. The drums of hazardous waste were transported from the storage area to the neutralization tank on pallets by plant fork lifts. Once at the tank, the material was pumped from the drums to the mixing tank using an air-driven diaphragm pump and chemically resistive hose.

A limited amount of equipment was used to handle hazardous waste at this facility. Propane powered lift trucks were used to move the hazardous waste to the storage area and from the storage area to the neutralization area. Other equipment used included the neutralization tank, the transfer pump used to transfer the waste from the drums to the tank, and also from the tank to the disposal truck, and the chemically resistant hose also used in both transfers. The locations of the storage shed and neutralization tank are included on Figure 3.

OTHER ENVIRONMENTAL PERMITS AND EXEMPTIONS

The California State Department of Health Services issued the subject Hazardous Waste Facility Permit for the continued operation of the existing facility, and as such the facility was and is exempt from the provisions of the California Environmental Quality Act in accordance with Section 15301, Chapter 3, Title 14, California Administrative Code.

The effluent wastewater stream was and is discharged into the sewer as covered by Los Angeles County Waste Water Discharge Permit (No. 8113)

There are no other hazardous waste management units onsite.

2 FINAL CLOSURE

From review of the manifest and Biennial Hazardous Waste Reports supplied by DWC, the life cycle of the hazardous waste units can be summarized by the following paragraphs.

The effective date of the hazardous waste permit for the hazardous waste facilities units was October 19, 1984. During the operational life of the facilities (February 15, 1982 to October 27, 1987), as calculated from various reports, waste totaling 17,865 gallons was shipped to a TSD facility. The last shipment to a facility occurred in October 27, 1987.

From conversations with the plant manager, the last neutralization tank wash-out was performed in accordance with the operations/closure plan submitted for permit approval, and is described in that plan in Part XIII Closure, Section A - Closure Plan dated September 9, 1983. The tank is currently being used for non hazardous material mixing.

The storage shed was demolished in March 1987 prior to selling a portion of the property on which the shed was located.

From October 27, 1987, DWC ceased to operate the facilities as hazardous waste units.

No sampling of the subsurface was completed when the shed was demolished. To close the facility properly, a sampling plan must be incorporated into the closure activities to document the existence of any soil contaminators. The sampling plan is summarized here and is discussed in detail in Section 6 Soil Sampling.

Three soil borings will be drilled along the centerline of the former location of the shed. Samples will be collected at 1, 3, 5, 10, and 15 feet below ground surface. The samples from 1 and 3 feet will be analyzed for total chromium by EPA method 7190. No groundwater monitoring wells will be installed unless soil samples indicate that the soil is contaminated with soluble chromium concentrations above 5 mg/l.

It is not anticipated that soil contamination has occurred. If small amounts (less than 50 cubic yards) of contaminated soil with soluble chromium concentrations above background concentrations are detected, then the contaminated soil will be removed to a Class I facility. If a volume greater than 50 cubic yards of contaminated soil with soluble chromium concentrations above background concentrations is detected, then a mitigation plan will be submitted to DHS. Based on information obtained during the January 1986 study, it is estimated that the background concentrations of soluble chromium is between 0.05 and 2.7 mg/l.

6 SOIL SAMPLING

An environmental assessment was performed in January 1986 to evaluate the soil and groundwater quality in the south yard area. Three monitoring wells and six soil borings were sampled as part of this assessment. The wells and borings were destroyed after completion of the study. Analyses of the groundwater indicated that chromium was not detected at the lower detection limit of 0.01 milligrams per liter (mg/l) in all three wells. Analyses indicated that total chromium existed in the soil at concentrations up to 2.9 milligrams per kilogram (mg/kg).

To complete closure of the shed three soil borings will be drilled, each to a depth of 15 feet along the centerline of the shed. In addition, two soil borings will be drilled in the parking lot for evaluation of background concentrations. Soil samples will be collected at 1, 3, 5, 10, and 15-feet depths. The complete soil sampling protocol is included as Appendix C. The samples from 1 and 3 feet will be analyzed for hexavalent chromium by EPA method 7190. If the soluble concentration is above 5 mg/l, then the samples from 5, 10, and 15 feet will be analyzed. If soil with soluble chromium concentrations above 5 mg/l are detected, then a mitigation plan will be submitted for DHS approval.

Groundwater sampling will not be completed as part of the closure of this facility for the following reasons:

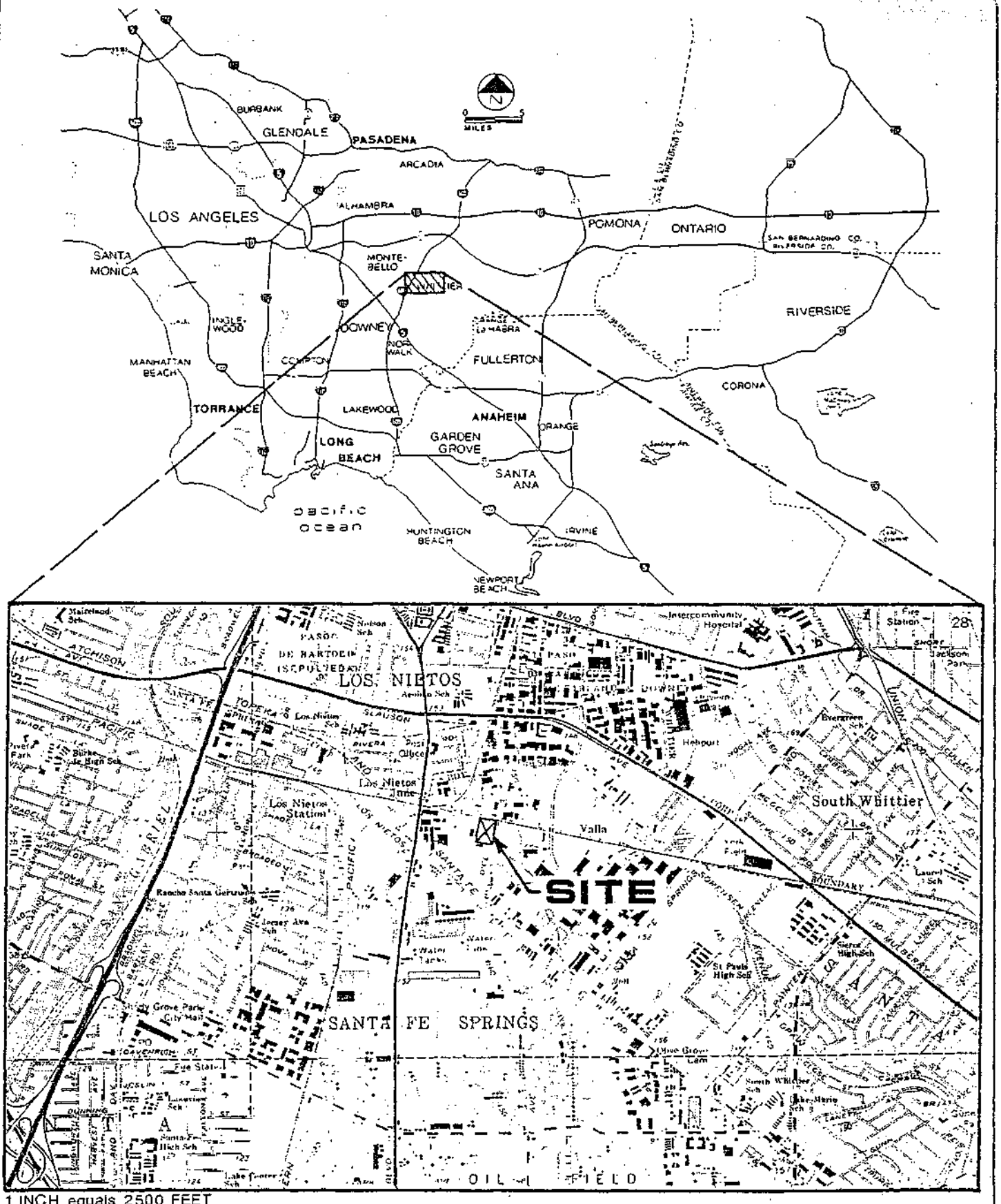
1) The waste was stored above ground in 55-gallon drums in a diked area.

2) Groundwater is approximately 50 feet below ground surface with, a clay layer 20 feet thick separating the groundwater from the surface.

3) The waste unit was used for approximately 3 years.

4) The only reported spill was leakage from one 55-gallon drum, and was easily contained and cleaned up.

5) No chromium was detected in the groundwater in January 1986.



1 INCH equals 2500 FEET
Map reduced from a portion of U.S.G.S. 7.5' topographic series, Whittier, California quadrangle.

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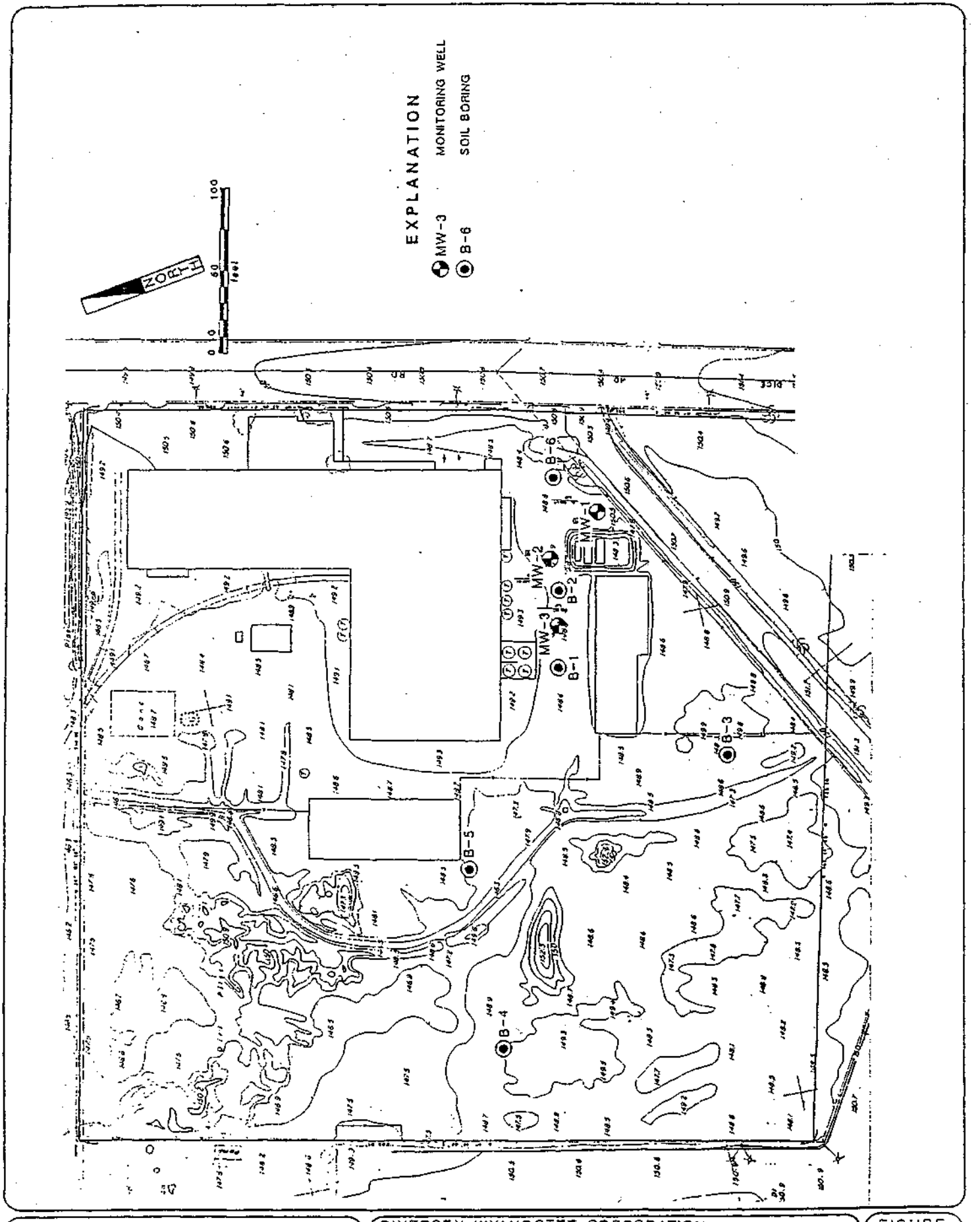
DIVERSEY WYANDOTTE CORPORATION
Santa Fe Springs, California

SITE LOCATION MAP

FIGURE 1



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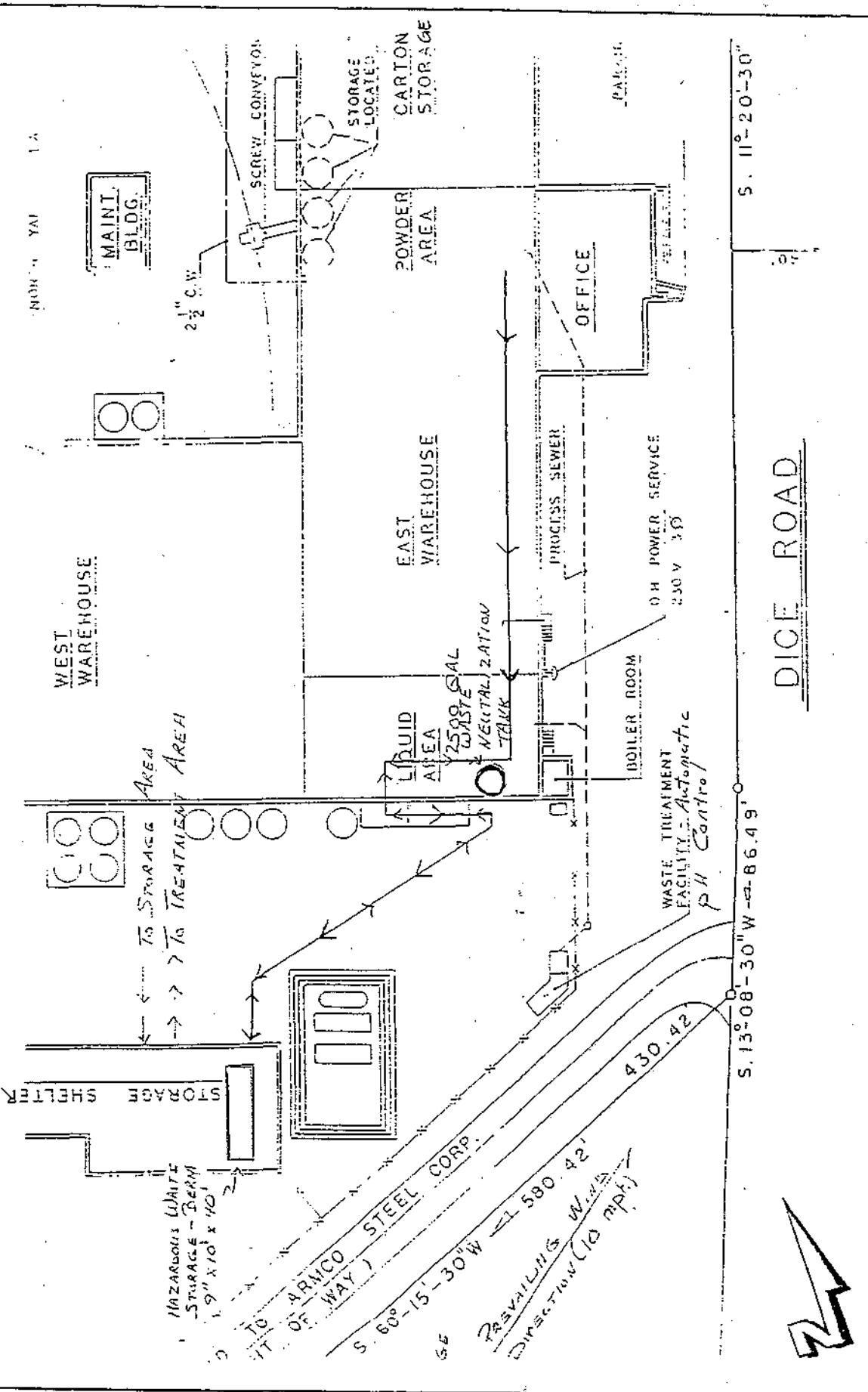
DIVERSEY WYANDOTTE CORPORATION
Santa Fe Springs, California

SITE PLAN WITH WELL LOCATIONS

FIGURE

2



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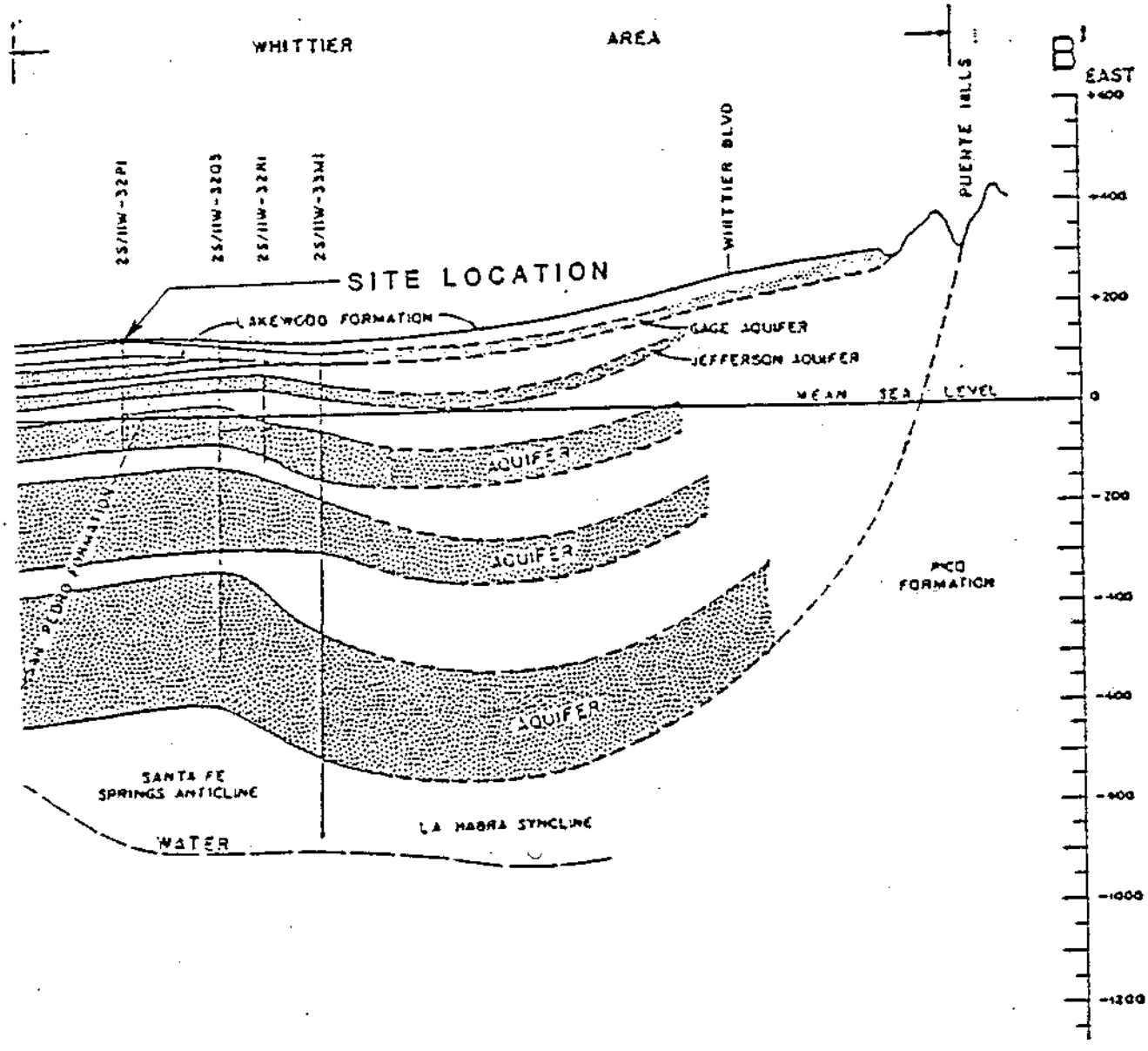
DIVERSEY WYANDOTTE CORPORATION
Santa Fe Springs, California

SITE PLAN WITH WASTE UNIT LOCATIONS

FIGURE 3



SOURCE: Map obtained from Department of Water Resources, Bulletin No. 104.

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DIVERSEY WYANDOTTE CORPORATION
Santa Fe Springs, California

REGIONAL CROSS-SECTION

FIGURE 4

Project Number 50-1601-01 November 1989

UNIFIED SOIL CLASSIFICATION SYSTEM

MAJOR DIVISIONS		LTR	DESCRIPTION
COARSE GRAINED SOILS	GRAVEL AND GRAVELLY SOILS	GW	Well-graded gravels or gravel sand mixtures, little or no fines.
		GP	Poorly-graded gravels or gravel sand mixture, little or no fines.
		GM	Silty gravels, gravel-sand-clay mixtures.
		GC	Clayey gravels, gravel-sand-clay mixtures.
	SAND AND SANDY SOILS	SW	Well-graded sands or gravelly sands, little or no fines.
		SP	Poorly-graded sands or gravelly sands, little or no fines.
		SM	Silty sands, sand-silt mixtures.
		SC	Clayey sands, sand-clay mixtures.

MAJOR DIVISIONS		LTR	DESCRIPTION
FINE GRAINED SOILS	SILTS AND CLAYS LL<50	ML	Inorganic silts and very fine sands, rock flour, silty or clayey fine sands or clayey silts with slight plasticity.
		CL	Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays.
		OL	Organic silts and organic silt-clays of low plasticity
	SILTS AND CLAYS LL>50	MH	Inorganic silts, micaceous or diatomaceous fine sandy or silty soils, elastic silts
		CH	Inorganic clays of high plasticity, fat clays.
		OH	Organic clays of medium to high plasticity.
HIGHLY ORGANIC SOILS		Pt	Peat and other highly organic soils.

Standard penetration split spoon sample

Modified California sampler

Shelby tube sample

Water level observed in boring

* No recovery

NFWE No free water encountered

NOTE: The lines separating strata on the logs represent approximate boundaries only. The actual transition may be gradual. No warranty is provided as to the continuity of soil strata between borings. Logs represent the soil section observed at the boring location on the date of drilling only.

H. KLEINFELDER & ASSOCIATES
OTECHNICAL CONSULTANTS • MATERIALS TESTING

BORING LOG LEGEND

PLATE 3

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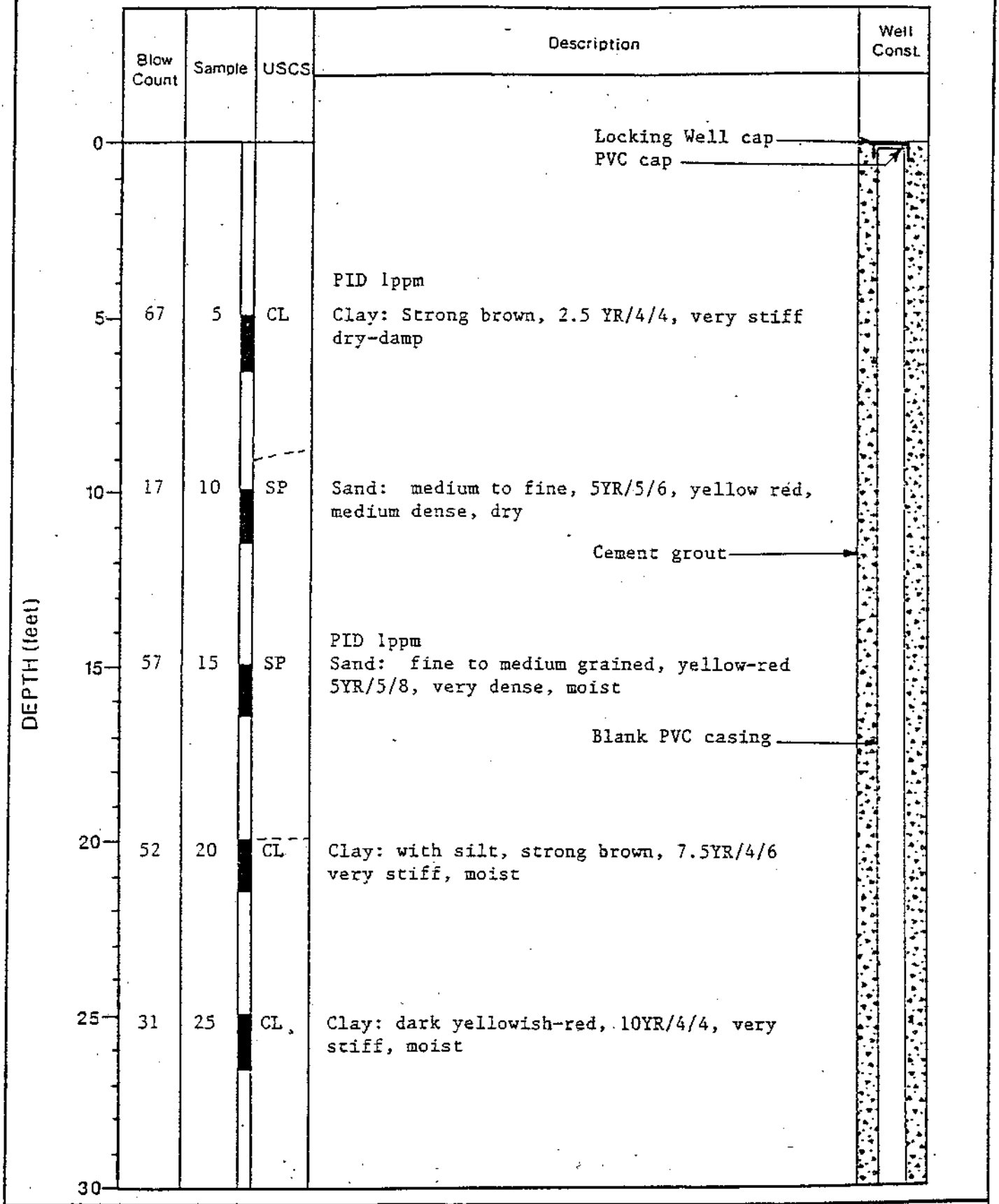
PROJECT NO.



J.H. KLEINFELDER & ASSOCIATES
GEOTECHNICAL CONSULTANTS • MATERIALS TESTING

DIVERSEY-WYANDOTTE
Santa Fe Springs, California

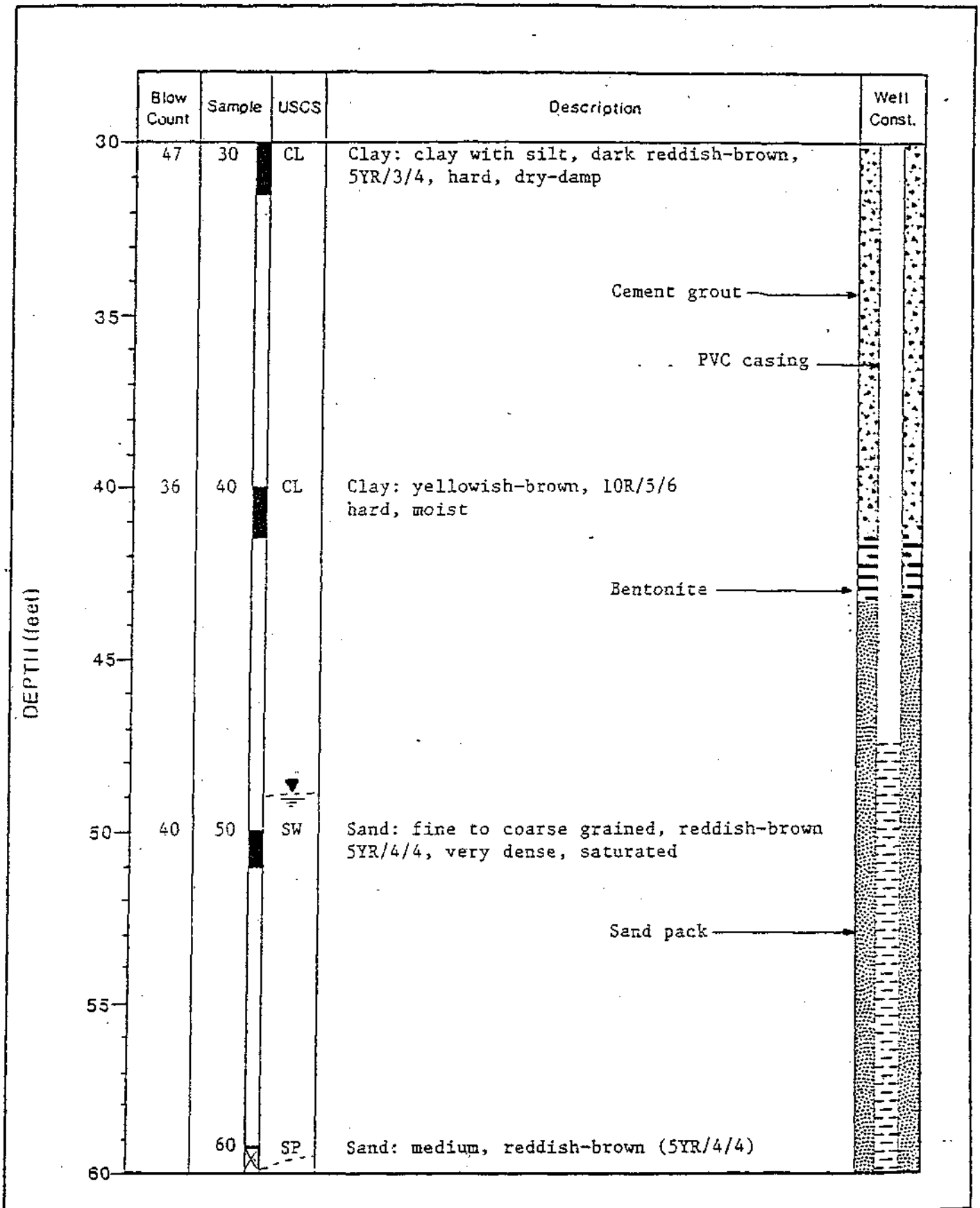
LOG of BORING MW-1

PLATE 4

PREPARED BY: NAP DATE: 11/86

CHECKED BY: KD DATE: 11/86

PROJECT NO. Q1073-1



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DIVERSEY-WYANDOTTE
Santa Fe Springs, California

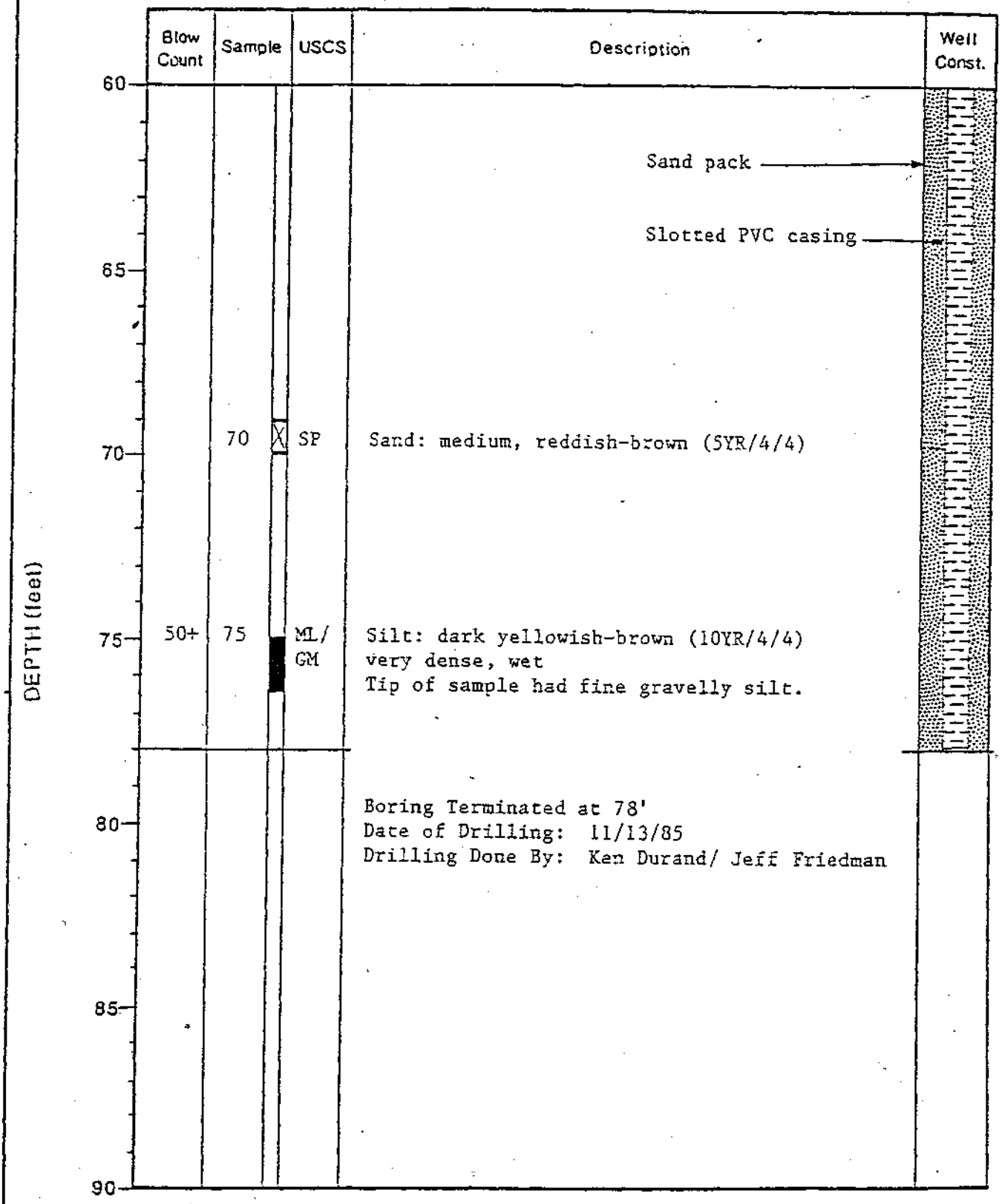
LOG of BORING MW-1

PLATE 4

PREPARED BY: NAP DATE: 1/86

CHECKED BY: KD DATE: 1/86

PROJECT NO. Q1073-1



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Santa Fe Springs, California

LOG of BORING MW-1

PLATE 4

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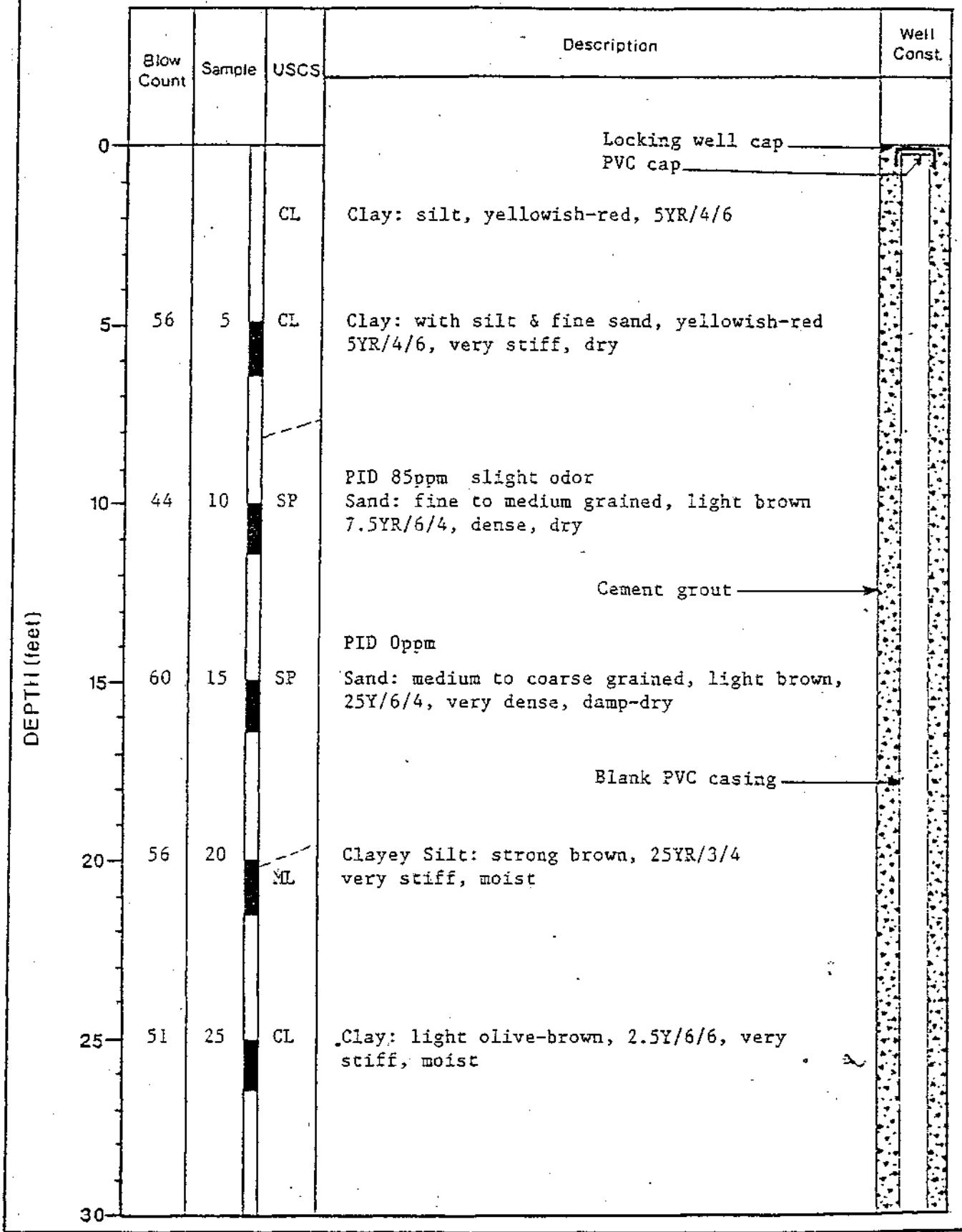

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DIVERSEY-WYANDOTTE
Santa Fe Springs, California

LOG of BORING MW-2

PLATE 5

PREPARED BY: NAP DATE: 11/86

CHECKED BY: KD DATE: 11/86

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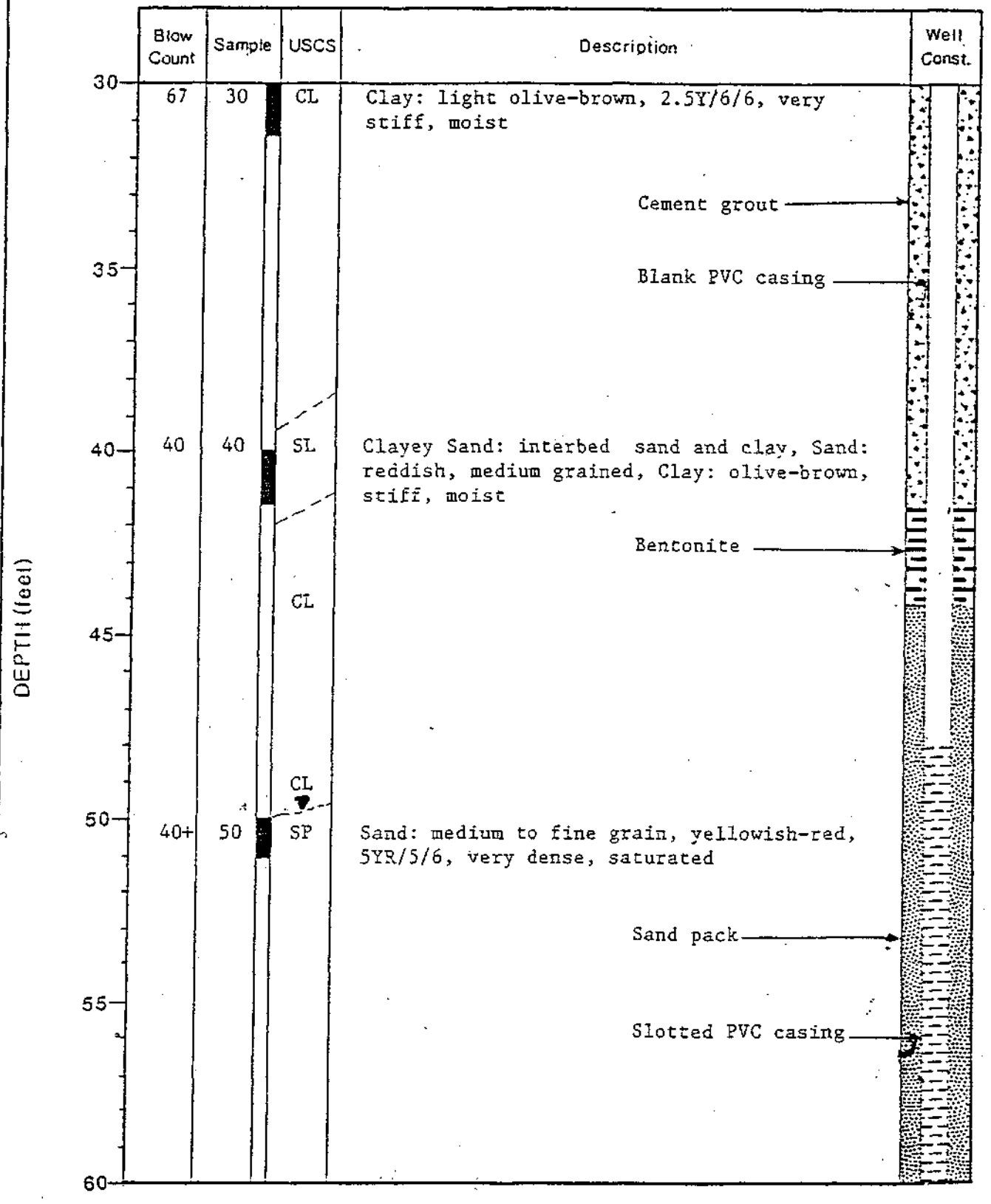

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DIVERSEY-WYANDOTTE
Santa Fe Springs, California

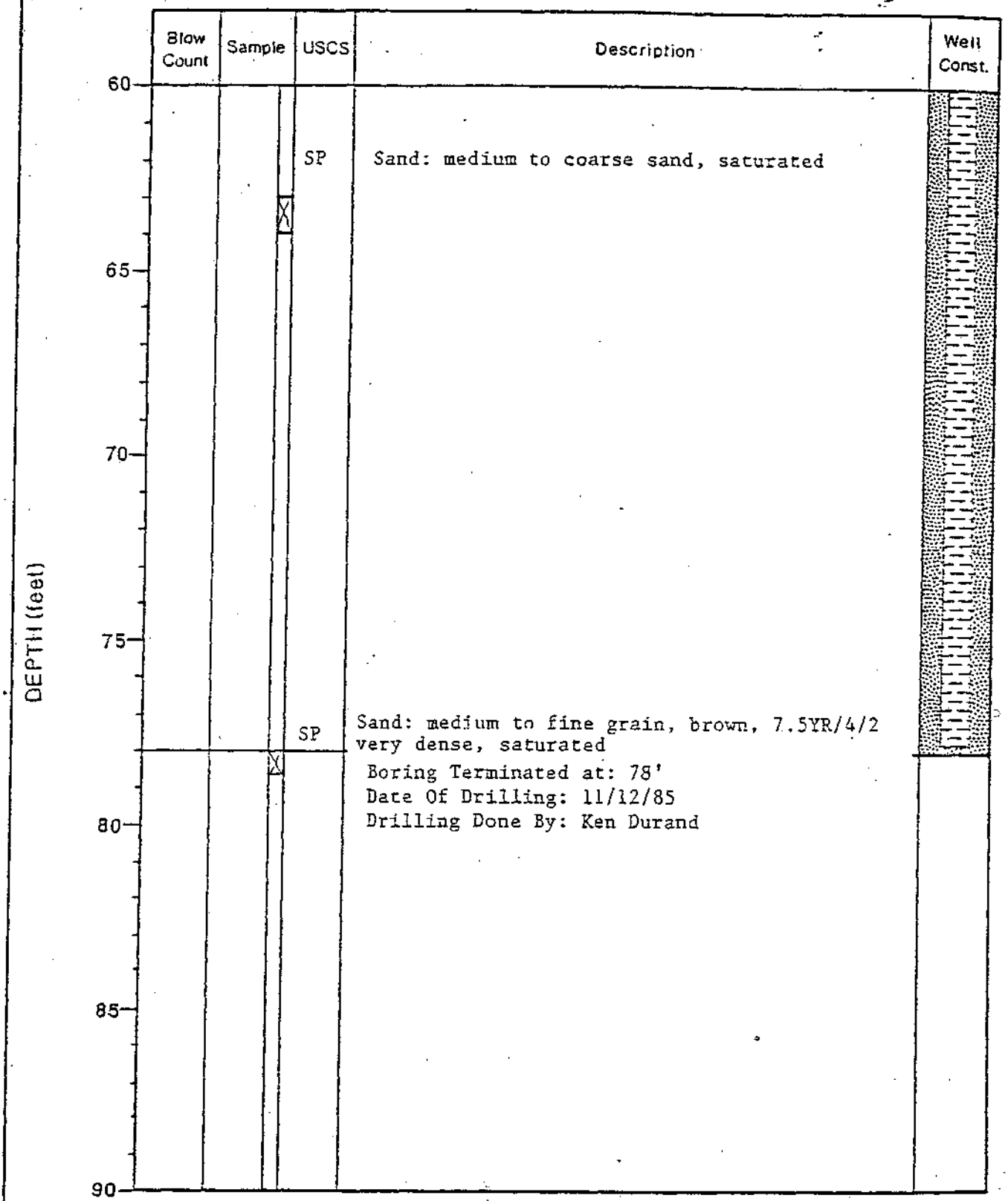
LOG of BORING MW-2

PLATE 5

PREPARED BY: NAP DATE: 1/86

CHECKED BY: KD DATE: 1/86

PROJECT NO. Q1073-1



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DIVERSEY-WYANDOTTE
Santa Fe Springs, California

LOG of BORING MW-2

PLATE 5

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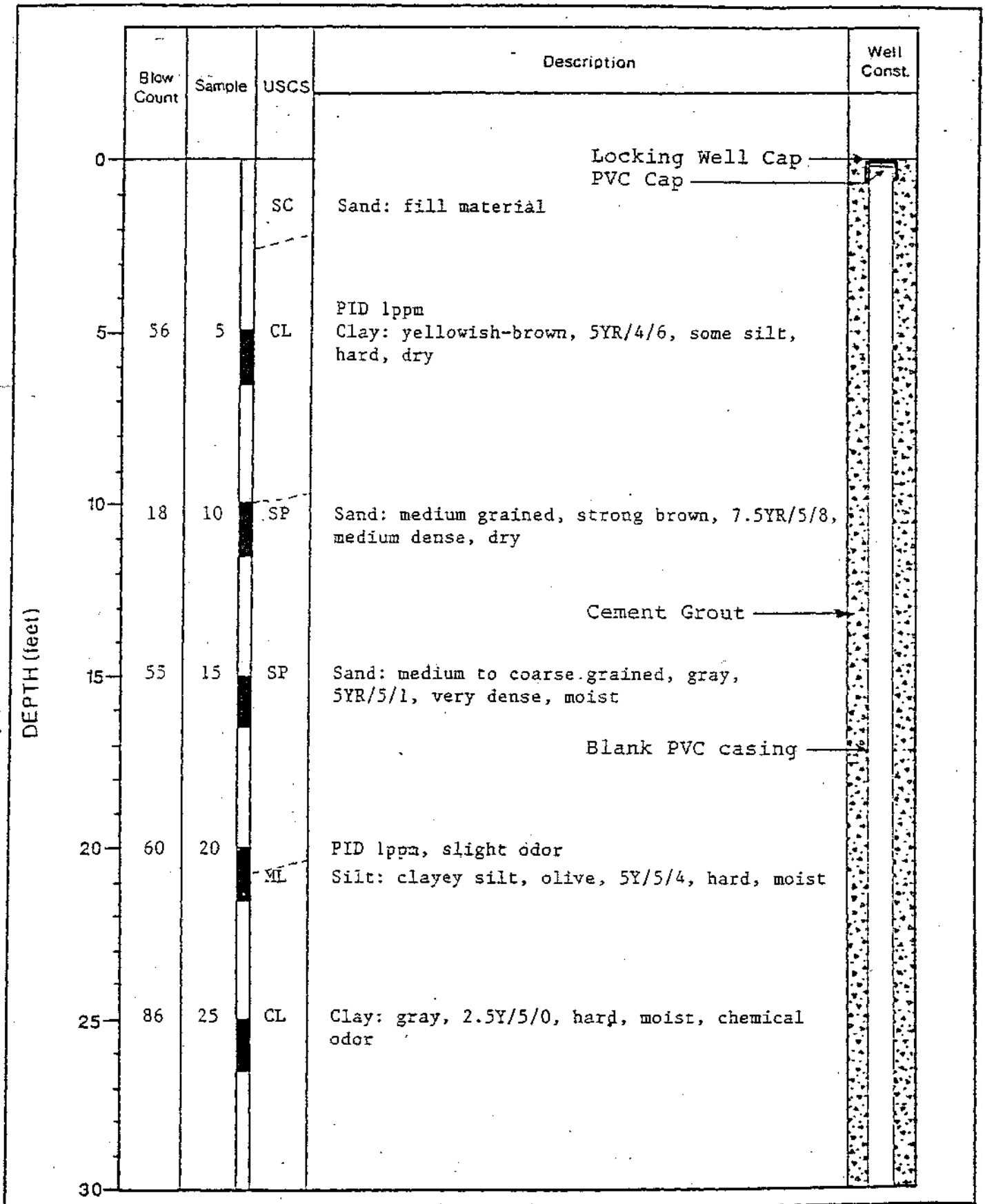

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DIVERSEY-WYANDOTTE
Santa Fe Springs, California

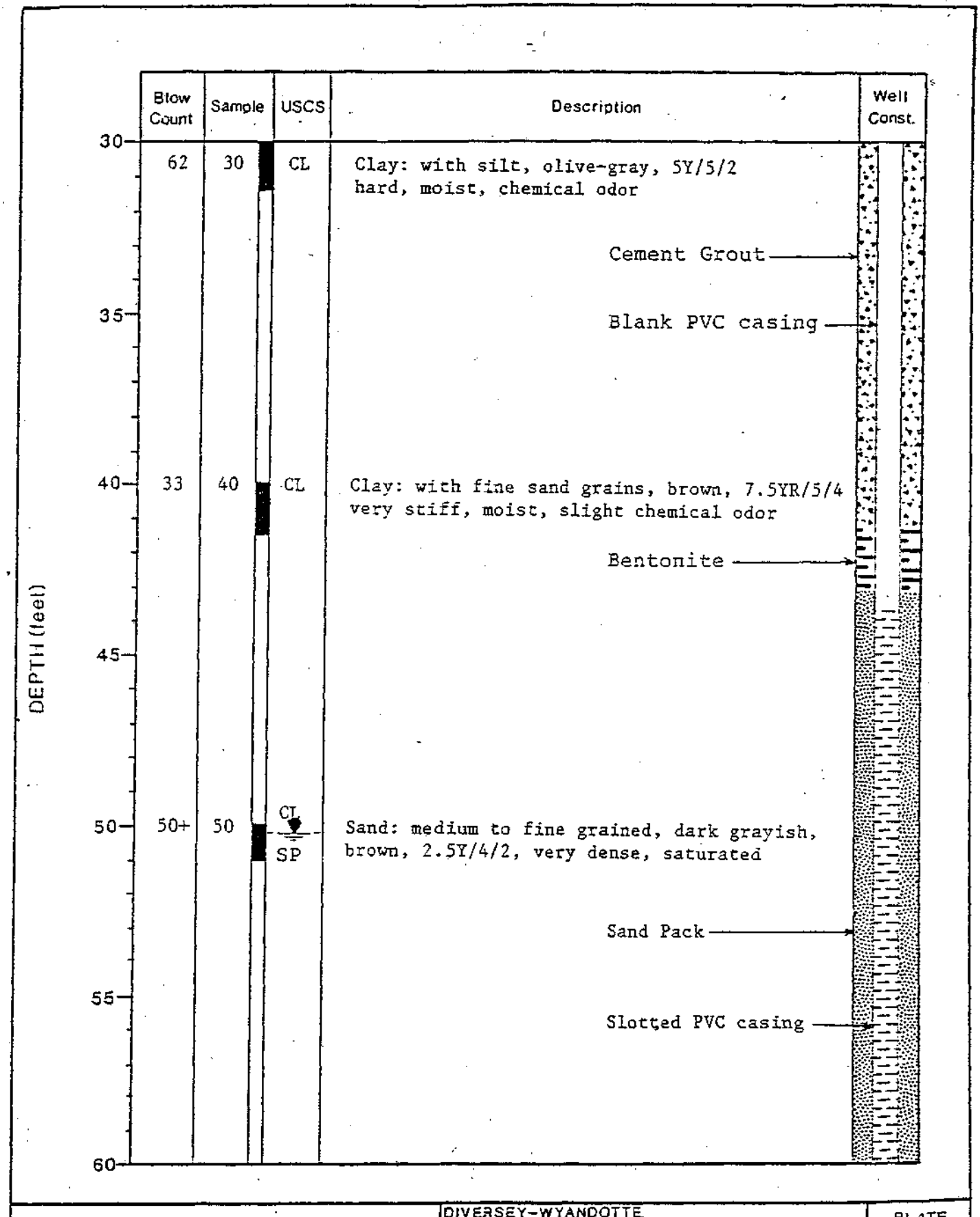
LOG of BORING MW-3

PLATE 6

PREPARED BY: NAP DATE: 11/86

CHECKED BY: KD DATE: 11/86

PROJECT NO. Q1073-1



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DIVERSEY-WYANDOTTE
Santa Fe Springs, California

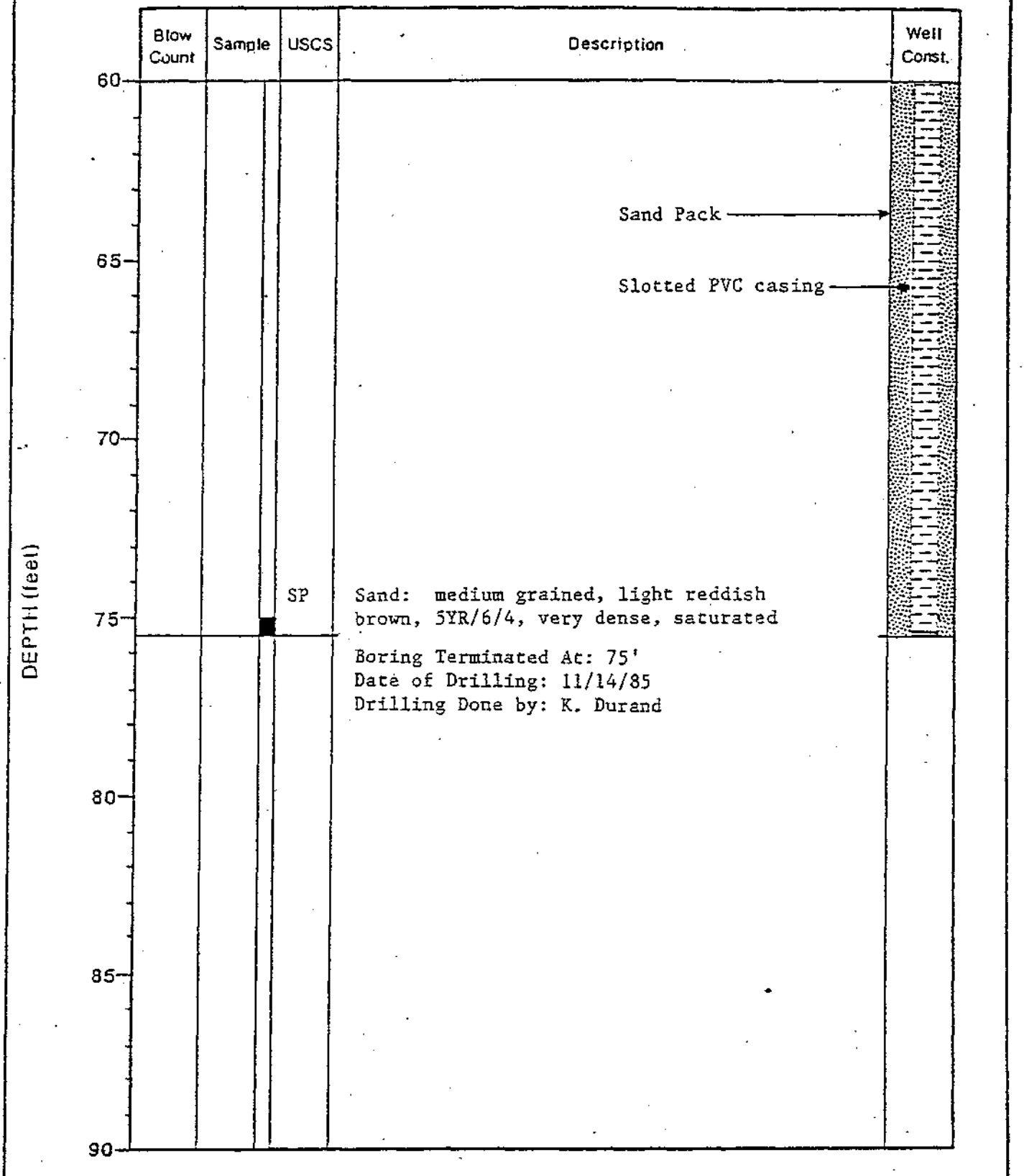
LOG of BORING MW-3

PLATE 6

PREPARED BY: NAP DATE: 1/86

CHECKED BY: KD DATE: 1/86

PROJECT NO. Q1073-1



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DIVERSEY-WYANDOTTE
Santa Fe Springs, California

LOG of BORING MW-3

PLATE 6

PREPARED BY: NAP	DATE: 1/86
CHECKED BY: KD	DATE: 1/86

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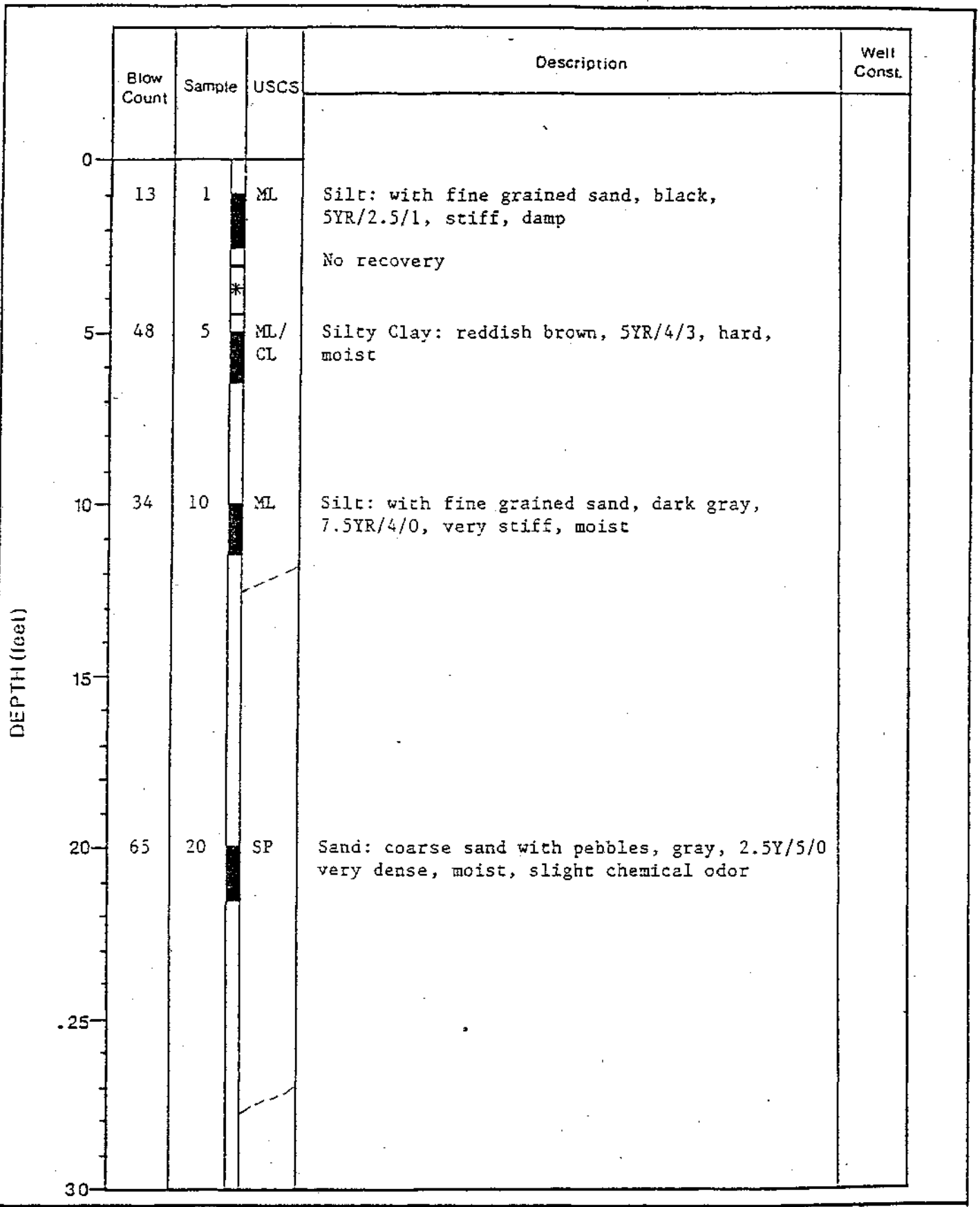

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GEOTECHNICAL CONSULTANTS • MATERIALS TESTING

DIVERSEY-WYANDOTTE
Santa Fe Springs, California

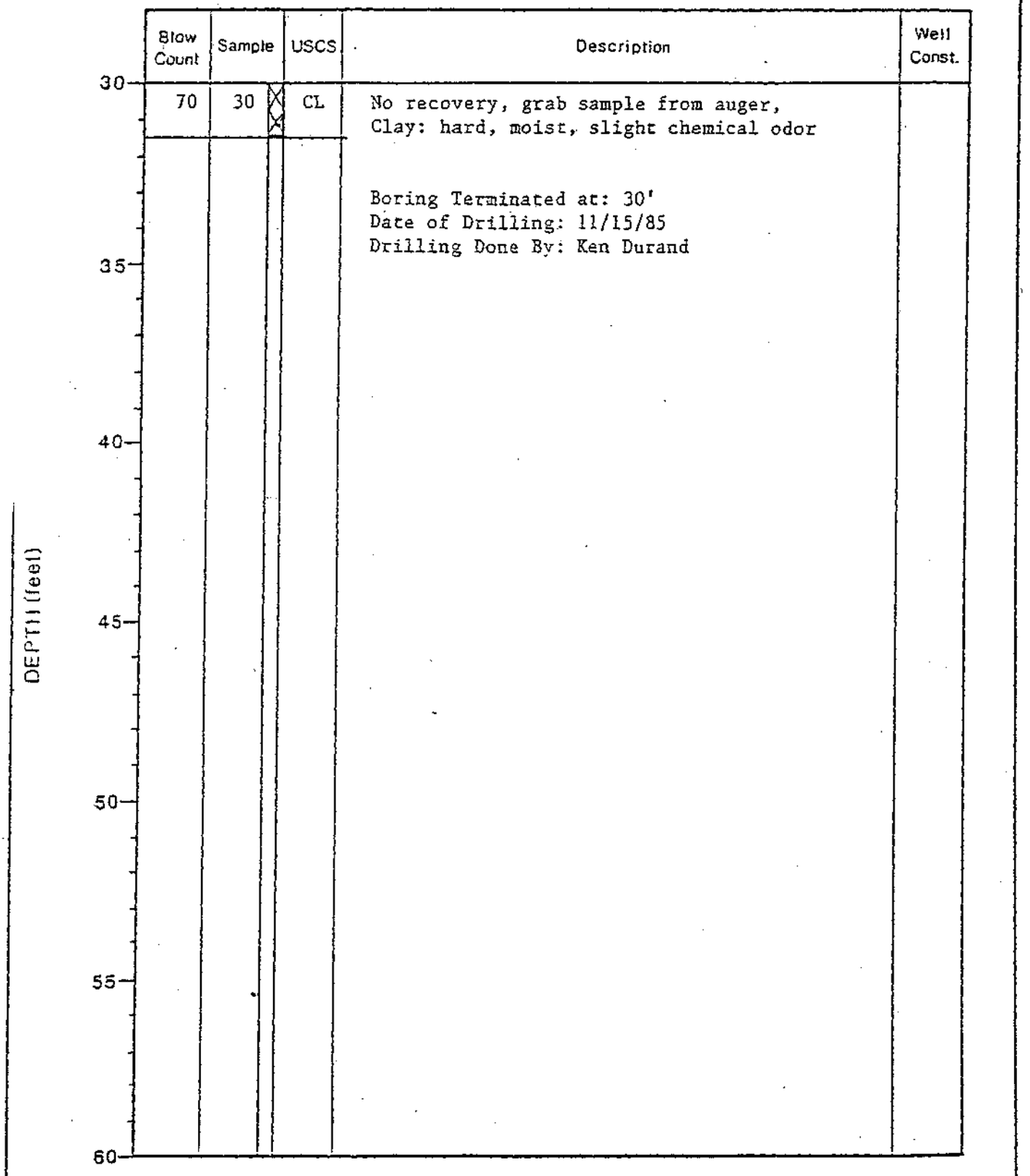
LOG of BORING B-1

PLATE 7

PREPARED BY: NAP DATE: 1/86

CHECKED BY: KD DATE: 1/86

PROJECT NO. Q1073-1



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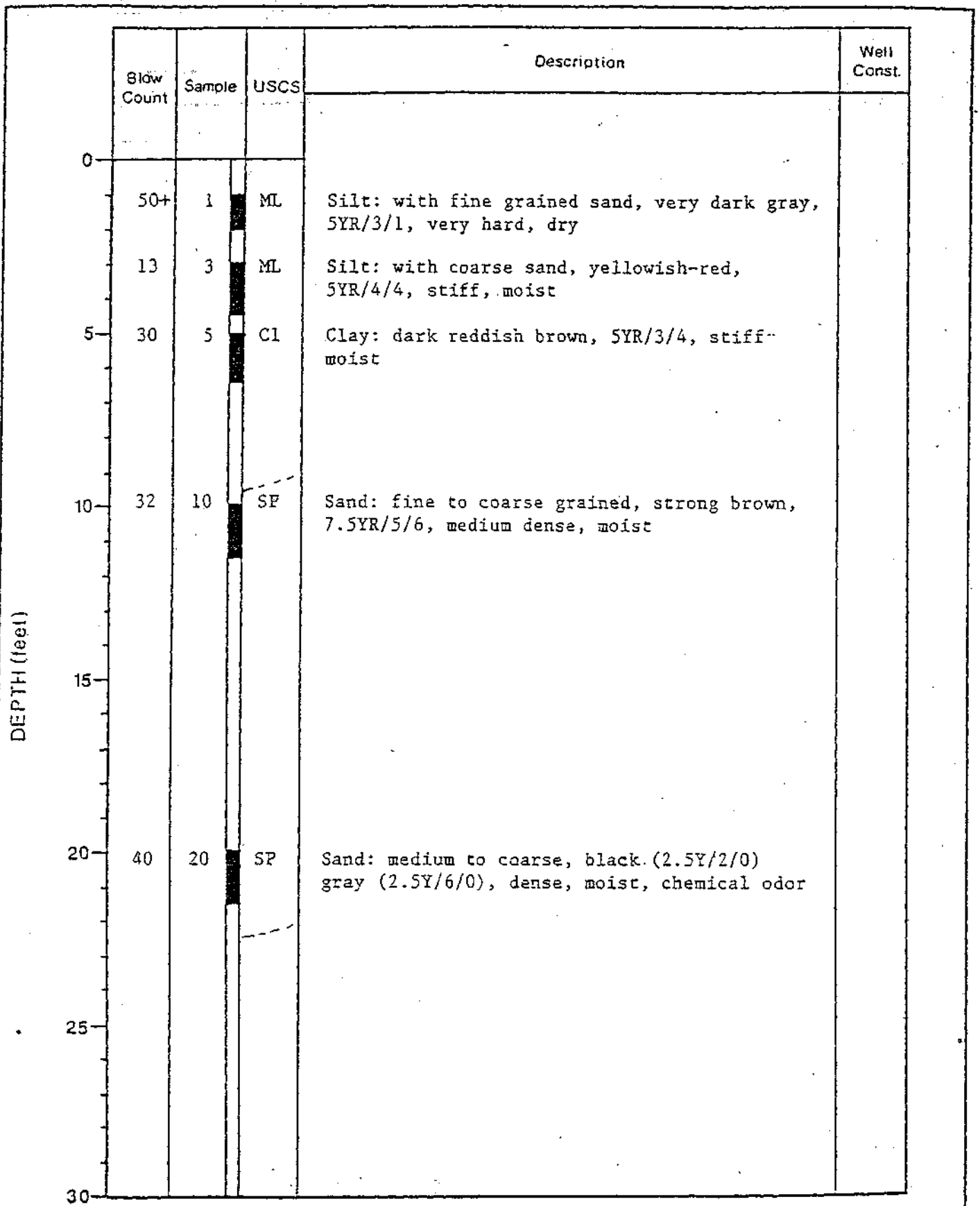
DIVERSEY-WYANDOTTE
Santa Fe Springs, California

LOG of BORING B-1

PROJECT NO. Q1073-1

PLATE 7



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Santa Fe Springs, California

LOG of BORING B-2

PLATE 8

PREPARED BY: NAP DATE: 11/86

CHECKED BY: KD DATE: 11/86

PROJECT NO. Q1073-1

Blow Count	Sample	USCS	Description	Well Const.
45	30	CL	Clay: gray (5Y/5/1), hard, moist, chemical odor	
			Boring Terminated at: 30' Date of Drilling: 11/15/85 Drilling Done By: Ken Durand	

DEPTH (feet)

30
35
40
45
50
55
60

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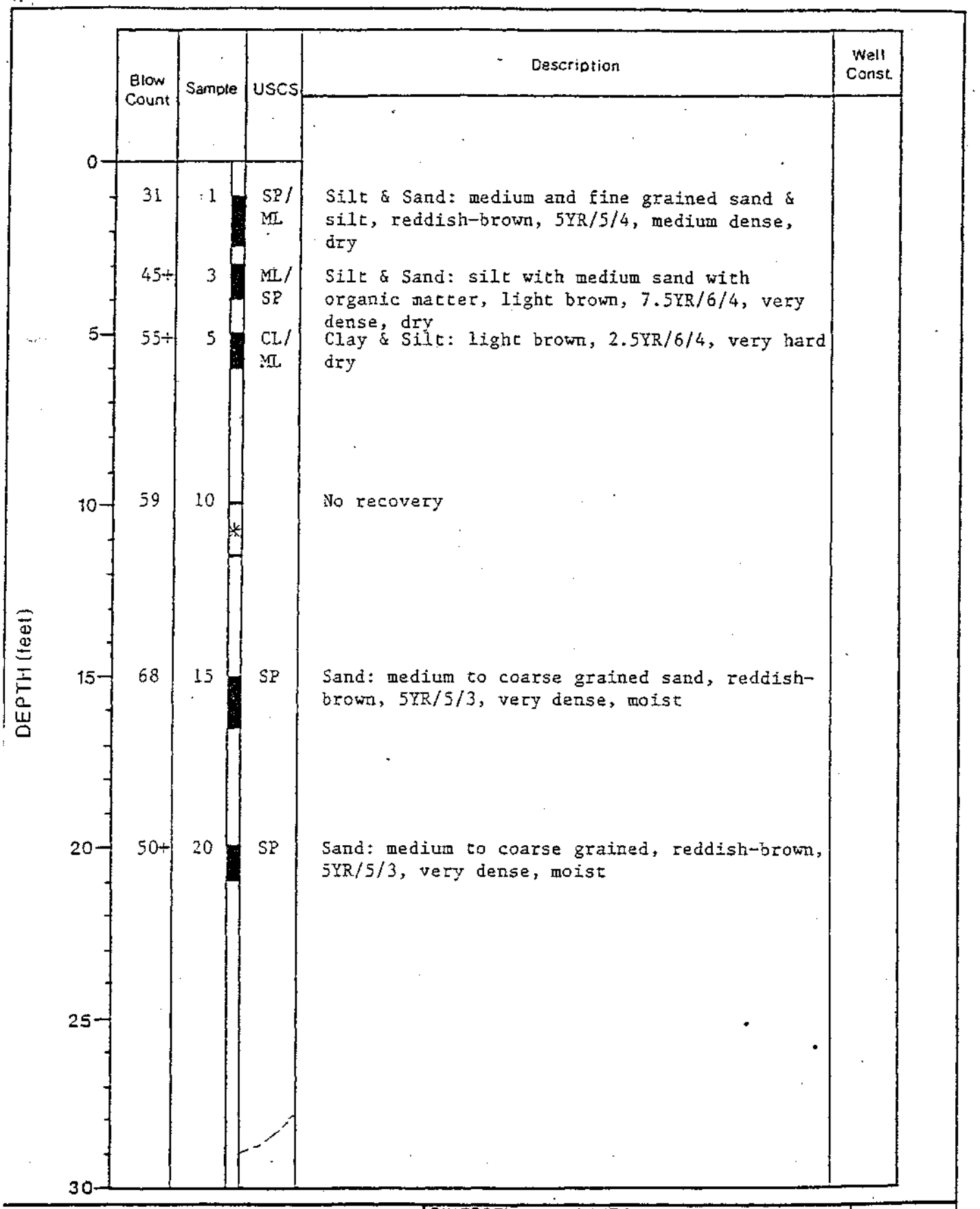
DIVERSEY-WYANDOTTE
Santa Fe Springs, California

LOG of BORING B-2

PLATE 8

PREPARED BY: NAP DATE: 1/86
CHECKED BY: KD DATE: 1/86

PROJECT NO. Q1073-1



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Santa Fe Springs, California

LOG of BORING B-3

PLATE
9

PREPARED BY: NAP DATE: 11/86

CHECKED BY: KD DATE: 11/86

PROJECT NO. Q1073-1

Blow Count	Sample	USCS	Description	Well Const.
38	30	CL	Clay: yellowish-red, 7.5YR/6/6, very stiff, moist	
			Boring Terminated at: 30' Date of Drilling: 11/15/85 Drilling Done by: Ken Durand	

DEPTH (feet)

30
35
40
45
50
55
60

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PREPARED BY: NAP DATE: 1/86

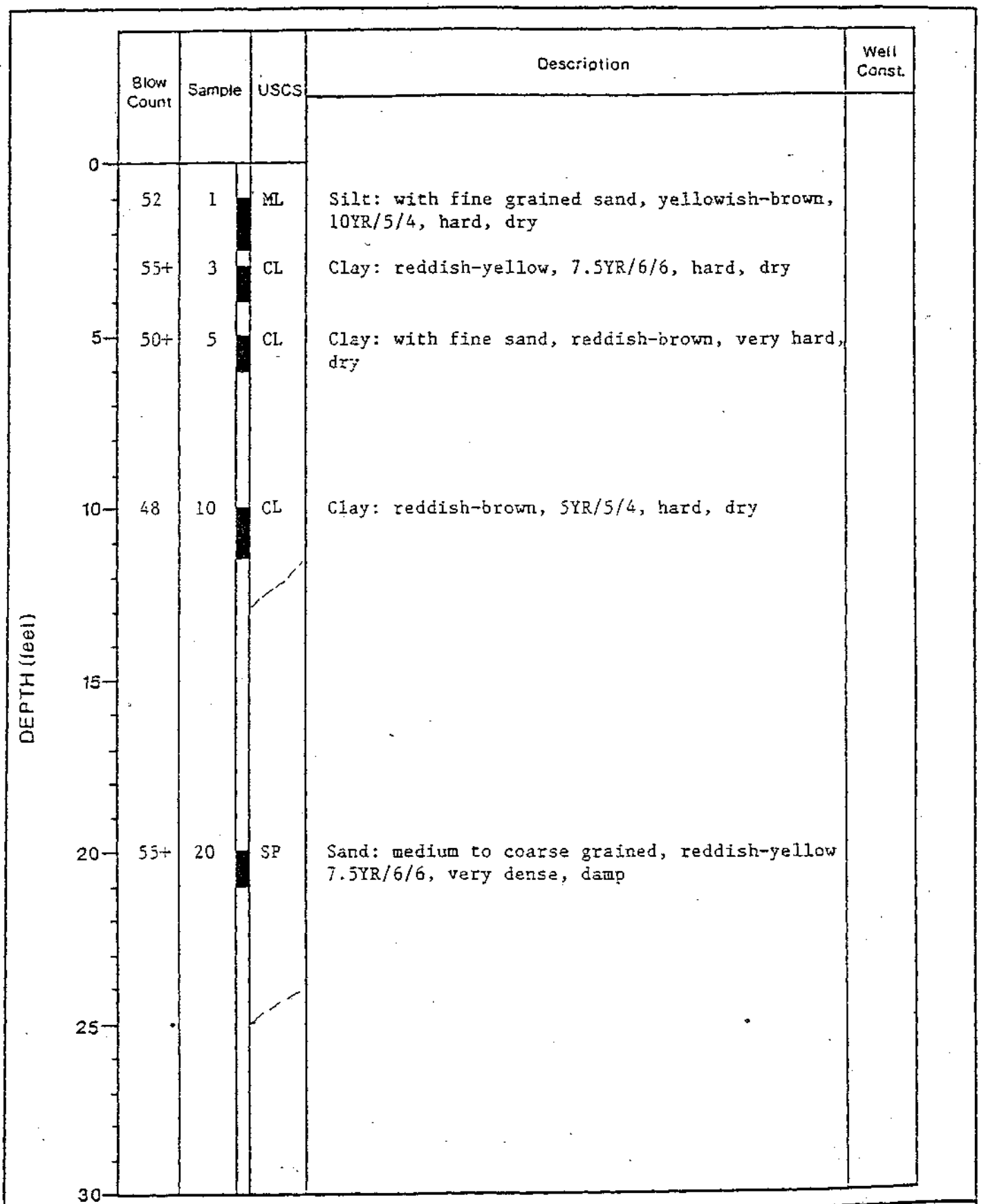
CHECKED BY: KP DATE: 1/86

DIVERSEY-WYANDOTTE
Santa Fe Springs, California

LOG of BORING B-3

PROJECT NO. Q1073-1

PLATE 9



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DIVERSEY-WYANDOTTE
Santa Fe Springs, California

LOG of BORING B-4

PLATE
10

PREPARED BY: NAP DATE: 11/86

PROJECT NO. 01073-1

Blow Count	Sample	USCS	Description	Well Const.
31	30	CL	Clay: light olive-brown, 2.5Y/5/4, very stiff, moist	
			Boring Terminated at: 30' Date of Drilling: 11/15/85 Drilling Done By: Ken Durand	

DEPTH (feet)

30 35 40 45 50 55 60

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GEOTECHNICAL CONSULTANTS • MATERIALS TESTING

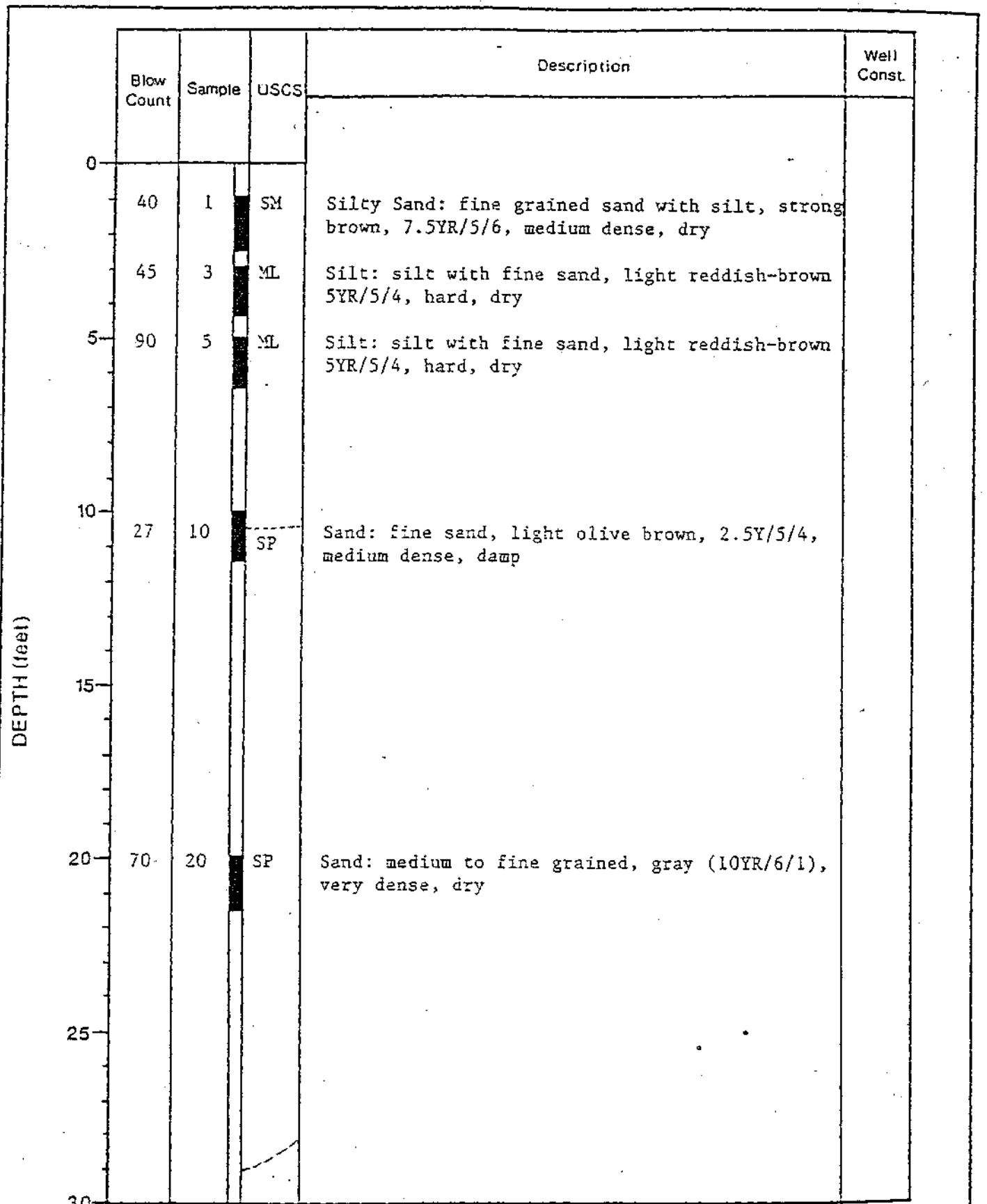
PREPARED BY: NAP DATE: 1/86

DIVERSEY-WYANDOTTE
Santa Fe Springs, California

LOG of BORING B-4

PROJECT NO. Q1073-1

PLATE 10



J.H. KLEINFELDER & ASSOCIATES
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DIVERSEY-WYANDOTTE
Santa Fe Springs, California

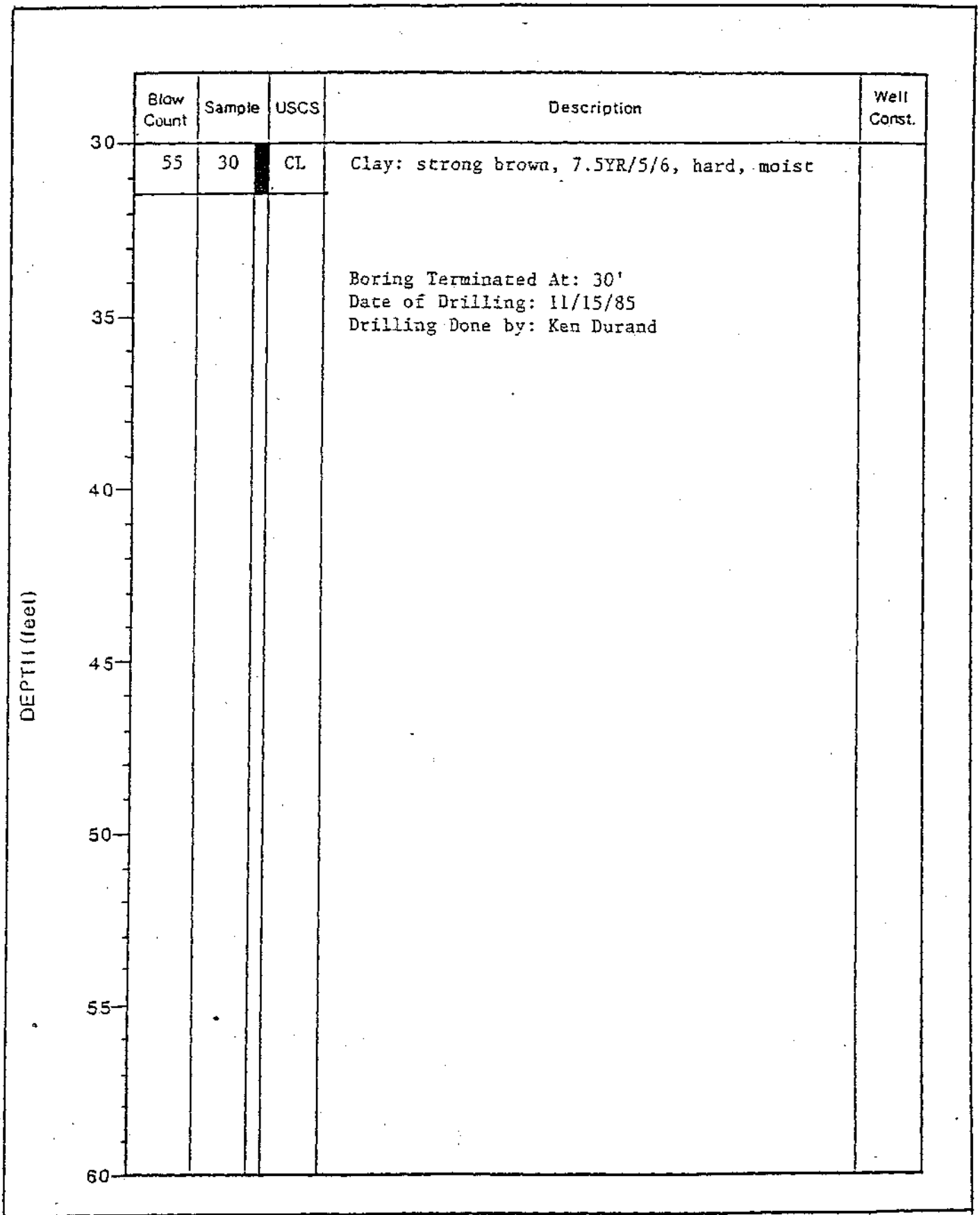
LOG of BORING B-5

PLATE 11

PREPARED BY: NAP DATE: 11/86

CHECKED BY: KD DATE: 11/86

PROJECT NO. Q1073-1



I.H. KLEINFELDER & ASSOCIATES
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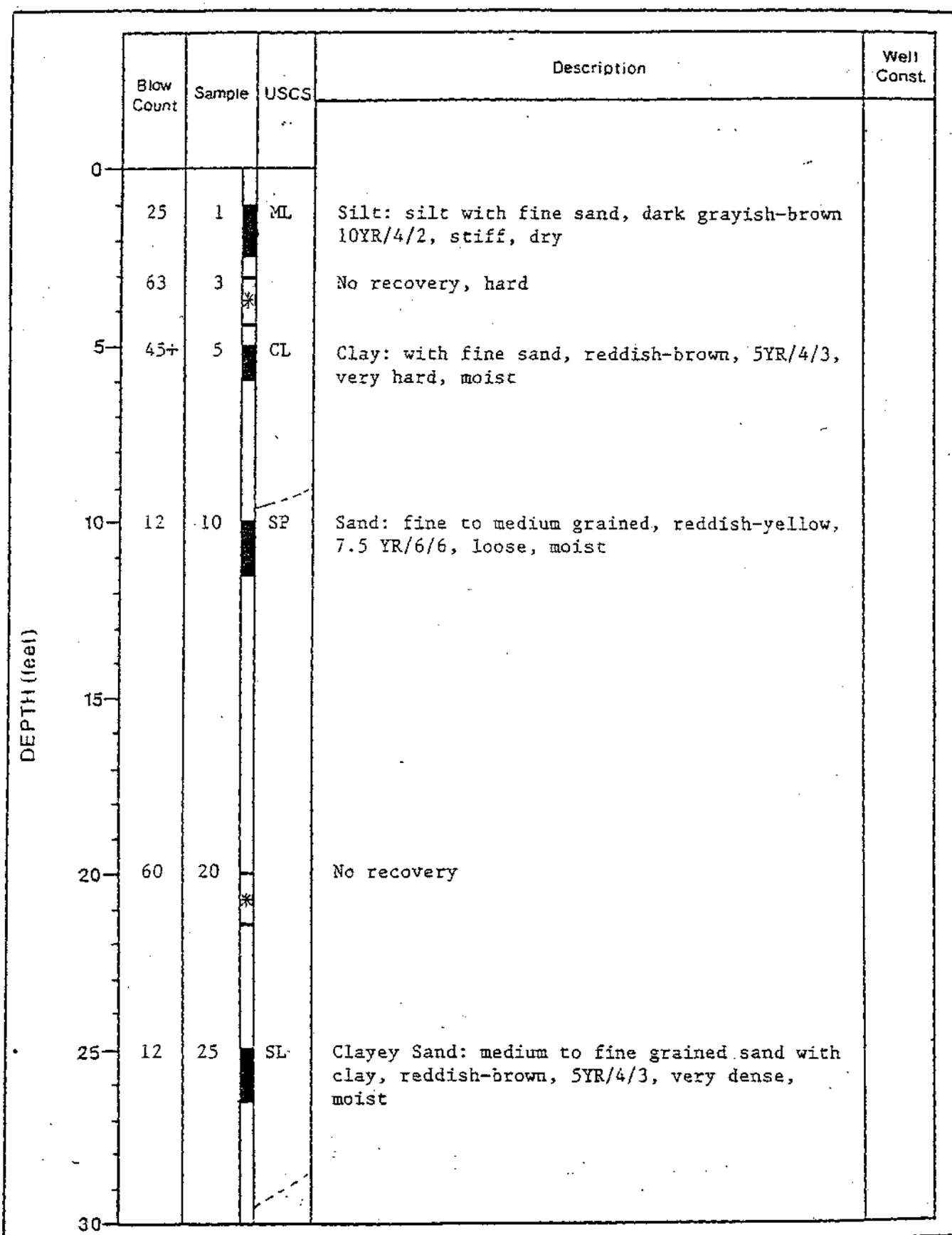
DIVERSEY–WYANDOTTE
Santa Fe Springs, California

LOG of BORING B-5

PLATE 11

PREPARED BY: NAP DATE: 1/86

PROJECT NO. 01073-1



J.H. KLEINFELDER & ASSOCIATES
GEOTECHNICAL CONSULTANTS • MATERIALS TESTING

PREPARED BY: NAP DATE: 11/86

DIVERSEY-WYANDOTTE
Santa Fe Springs, California

LOG of BORING B-6

PROJECT NO. 0107 3-1

PLATE
12

Blow Count	Sample	USCS	Description	Well Const.
45	30	CL	Clay: pale brown, 10YR/6/3 hard, moist	
			Boring Terminated at: 30' Date of Drilling: 11/15/85 Drilling Done by: Ken Durand	

DEPTH (feet)

30
35
40
45
50
55
60

J.H. KLEINFELDER & ASSOCIATES
GEOTECHNICAL CONSULTANTS • MATERIALS TESTING

DIVERSEY-WYANDOTTE
Santa Fe Springs, California

LOG of BORING B-6

PLATE 12

PREPARED BY: NAP DATE: 1/86
CHECKED BY: KD DATE: 1/86

PROJECT NO. Q1073-1

APPENDIX B

LABORATORY RESULTS

TABLE C
TABULATION OF SOIL DATA
EPA METHOD 624 (EXPANDED)
VOLATILE ORGANICS*
(ug/kg)

Boring	MW2	MW2
Depth	15	40
COMPOUND		
benzene	ND 500	ND 500
carbon tetrachloride	ND 100	ND 100
chlorobenzene	ND 100	ND 100
1,2-dichloroethane	ND 100	ND 100
1,1,1-trichloroethane	ND 100	ND 100
1,1-dichloroethane	ND 100	ND 100
1,1,2-trichloroethane	ND 100	ND 100
1,1,2,2-tetrqchloroethane	ND 100	ND 100
chloroethane	ND 100	ND 100
1,1-dichloroethene	ND 100	ND 100
1,2-trans-dichloroethene	ND 100	ND 100
1,2-dichloroepropane	ND 100	ND 100
1,3-dichloropropylene	ND 100	ND 100
ethylbenzene	ND 100	ND 100
methylene chloride	ND 100	ND 100
chloromethane	ND 100	ND 100
bromomethane	ND 100	ND 100
bromoform	ND 100	ND 100
bromodichloromethane	ND 100	ND 100
fluorotrichloromethane	ND 100	ND 100
dichlorodifluoromethane	ND 100	ND 100
chlorodibromomethane	ND 100	ND 100
tetrachloroethene	ND 100	ND 100
toluene	ND 100	ND 100
trichloroethene	ND 100	ND 100
vinyl chloride	ND 100	ND 100
Non-Priority Hazardous Pollutant Substances List Compound		
acetone	ND 500	ND 500
2-butanone	ND 500	ND 500
carbon disulfide	ND 200	ND 200
2-hexanone	ND 500	ND 500
4-methyl-2-pentanone	ND 500	ND 500
styrene	ND 200	ND 200
vinyl acetate	ND 1000	ND 1000
total xylenes	ND 200	ND 200

*Methanol Extract

NOTES: ND500 = Not detected at 500 ug/kg

TABLE D
TABULATION OF WATER DATA
(mg/l)

	QC1	MW1	MW2	QC2	MW3	Drinking Water Standards
Arsenic	ND.01	ND.01	ND.01	ND.01	ND.01	0.05
Selenium	ND.01	ND.01	ND.01	ND.01	ND.01	0.01
Mercury	ND.1	ND.1	ND.1	ND.001	ND.001	.002
Silver	ND.01	ND.01	ND.01	ND.01	ND.01	0.05
Barium	ND.3	ND.3	0.36	ND.3	ND.30	1.0
Cadmium	ND.01	ND.01	ND.01	ND.01	ND.01	0.01
Chromium	0.02	ND.01	ND.01	ND.01	ND.01	0.05
Lead	ND.06	ND.06	ND.06	ND.06	ND.06	0.05
Flourine	ND.01	0.36	0.34	ND.01	0.31	--
Nitrate	2.0	27.0	25.2	2.3	4.1	45

NOTES: QC1 = Quality Control Sample Number 1
MW1 = Sample from Monitoring Well number 1
ND.1 = Not detected at .1 mg/l

TABLE E
TABULATION OF WATER DATA

EPA 601
Purgeable Halocarbons
(ug/l)

	MW3	DOHS "Action Level"
methylene chloride	14	40
trichlorofluoromethane	ND1	
1,1-dichloroethene	34	
1,1-dichloroethane	5	
trans-1,2-dichloroethene	ND1	
Chloroform	3	
1,1,2-trichloro-2,2,1-trifluoroethane	ND1	
1,3-dichloroethane	ND1	
1,1,1-trichloroethane	8	200
carbon tetrachloride	ND1	
bromodichloromethane	ND1	
1,2-dichloropropane	3	10
trans-1,3-dichloropropene	ND1	
trichloroethene	90	
dibromochloromethane	ND1	
1,1,2-trichloroethane	ND1	
cis-1,3-dichloropropene	ND1	
bromoform	ND1	
1,1,2,2-tetrachloroethane	8	
tetrachloroethene	9	
chlorobenzene	ND1	

NOTES: ND1 - Not detected at 1 ug/l

Table F

Tabulation of Water Data
(mg/l)

	General Minerals					Secondary Drink Water Standards
	QC 1	MW 1	MW 2	QC 2	MW 3	
cium	1.2	145	130	1.4	130	--
per	ND.1	ND.1	ND.1	ND.1	ND.1	1.0
n	ND.2	ND.2	ND.2	ND.2	0.3	0.3
nesium	ND.1	38	33	ND.1	36	--
ganese	ND.2	0.7	0.6	ND.2	1.8	0.05
ium	3.0	108	115	4.1	123	--
c	ND.1	0.5	0.4	ND.1	0.5	5.0
al Alkalinity o pH 4.6, g $CaCO_3$/L	2.5	405	375	2.5	510	--
oride	ND.1	0.36	0.34	ND.1	0.31	1.4
rate Nitrogen	2.0	27.0	25.2	2.3	4.1	45
loride	240	120	120	30	150	500
rfactants	70	70	50	ND10	55	--
(units)	8.04	7.27	7.31	8.26	7.04	--
nductivity, (mhos/cm)	10	1,300	1,200	10	1,300	1,600
lfate	NT 1	412	458	ND1	386	500
tal Dissolved Solids	295	1,325	1,135	120	1,175	1,000
rdness, (mg $CaCO_3$/L)	3	518	461	3.5	473	--
osphate	7.7	11.3	14.4	ND3	12.0	--